

FINAL EVALUATION

Philippines Efficient Lighting Market Transformation Project (PELMATP)

United Nations Development Programme (UNDP)

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1. LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ADP	Assistant Project Director
AO	Administrative Order
APLAC	Asia and the Pacific Laboratory Accreditation Cooperation
APR-PIR	Annual Performance Report – Project Implementation Review
AWP	annual work plan
BOI	Board of Investments
BPI	Bank of the Philippine Islands
BPS	Bureau of Product Standards
BPSLAS	Bureau of Product Standards Laboratory Accreditation Scheme
CCFI	Chamber of Commerce and Industry Foundation, Inc.
CCI	Chamber of Commerce and Industry
CDCP	Clean Development and Climate Program
CDM	Clean Development Mechanism
CEPALCO	Cagayan Electric Power and Light Company
CHED	Commission on Higher Education
C&I	commercial and industrial
CFL	compact fluorescent lamp
CMO	CHED Memorandum Order
CO	Country Office
CO ₂	carbon dioxide
CSR	Corporate Social Responsibility
CWPO	Consumer Welfare and Promotions Office
DAO	Department Administrative Order
DBP	Development Bank of the Philippines
DENR	Department of Environment and Natural Resources
DILG	Department of Interior and Local Government
DBM	Department of Budget and Management
DOE	Department of Energy
DPWH	Department of Public Works and Highways
DTI	Department of Trade and Industry
DSM	demand-side management
DSSC	Development Support Services Center
EC	energy conservation
ECAP	Energy and Clean Air Project
EC&EE	energy conservation and energy efficiency
EE&C	energy efficiency and conservation
EECD	Energy Efficiency and Conservation Division
EE	energy efficient
EEL	energy efficient lighting
ELI	Efficient Lighting Initiative

EMB	Environmental Management Bureau (of DENR)
ENPAP	Energy Efficiency Practitioners' Association of the Philippines
ENMAP	Energy Management Association of the Philippines
Enercon	energy conservation
EPIMB	Electric Power Industry and Management Bureau
EPC	energy performance contract
ERC	Energy Regulations Commission
ERTLS	Energy Research and Testing Laboratory Services
ESCO	energy service company
EUMB	Energy Utilization and Management Bureau
FEU	Far Eastern University
FI	financial institution
FL	fluorescent lamp
GEF	Global Environment Facility
GHG	greenhouse gas
GK	Gawad Kalinga movement
GOP	Government of Philippines
GWH	gigawatt-hour
Hg	Mercury
HID	high-intensity discharge lamp
HH	Household
HPS	high-pressure sodium lamp
I	Industrial
IEC	information, education and communication
IFC	International Finance Corporation
IIEC	International Institute for Energy Conservation
IIEE	Institute of Integrated Electrical Engineers
IIEEF	Institute of Integrated Electrical Engineers Foundation
ISO	International Standards Organization
ISTA	International Technical Advisor
IT	information technology
ITMS	Information Technology Management Service (of DOE)
kWh	kilowatt-hour
ktCO ₂	kilotonnes of CO ₂
LATL	Lighting and Appliance Testing Laboratory
LED	light emitting diode
LFL	linear fluorescent lamp
LGU	local government unit
M&E	monitoring and evaluation
MERALCO	Manila Electric, Railways and Light Company (a.k.a. Manila Electric Company)
MEPS	minimum energy performance standard
MEZ- FAMEA	Mactan Economic Zone – Facilities, Maintenance and Environmental Association
MOA	Memorandum of Agreement
MRA	Mutual Resource Agreement
MWh	megawatt-hour

N.A.	not applicable
NATCCO	National Confederation of Cooperatives
NCR	National Capital Region
NEC	National Engineering Center
NEDA	National Economic and Development Authority
NEECP	National Energy Efficiency and Conservation Program
NEX	National Execution Manual
NGO	non-government organization
NPD	National Project Director
PAB	Policy Advisory Board (of PELMATP)
PAO	Philippine Accreditation Office
PCAPI	Pollution Control Association of the Philippines
PDD	Project Design Document
PDIC	Philippine Deposit Insurance Corporation
PELMATP	Philippine Efficient Lighting Market Transformation Project
PERC	Partnership for Eco-Responsive Company
PEREZ	Partnership for Responsive Eco-Zones
PICTS	Productivity Improvement and Conformity Testing
PLIA	Philippine Lighting Industry Association
PMO	Project Management Office (of PELMATP)
PNB	Philippine National Bank
PNOC	Philippine National Oil Company
PNS	Philippine National Standards
PR	public relations
R	Residential
R&D	research and development
REC	rural electrification cooperative
REDF	Rural Electrification Development Foundation
SRS	Science Research Specialist
TA	technical assistance
tCO ₂	tons of carbondioxide
TESDA	Technical Education and Skills Development Authority
TIP	Technogical Institute of the Philippines
TOR	Terms of Reference
TV	Television
TWG	Technical Working Group (of PELMATP)
UNDP	United Nations Development Programme
UP	University of the Philippines
USA	United States of America
USAID	U.S. Agency for International Development
USD	United States dollar
US\$	US dollar
VA	voluntary agreement
VECO	Visayan Electric Company
W	Watt
WFP	work and financial plan

Yr Year

2. EXECUTIVE SUMMARY

The executive summary of the report will be submitted in the final version of the evaluation report upon review of the present draft by the PELMATP stakeholders.

3. INTRODUCTION

3.1. Background

The Government of the Philippines energy independence and savings reform agenda, aimed at a 60% self-sufficiency level by 2010, of which a strong efficiency and conservation is a key program. The GOP promotes the judicious conservation and efficient utilization of energy resources through adoption of the cost-effective options taking into consideration minimizing environmental impact.

The primary goal of the government energy efficiency and conservation program is to increase awareness and the attainment of 229 million barrels of fuel oil of total energy savings from the implementation of energy efficiency and alternative fuels programs for the period 2005-2014, avoiding about 50.9 million tons of CO₂ equivalent greenhouse gas emissions.

The strategies of the Department of Energy (DOE) to achieve this goal include the aggressive promotion of energy conservation and energy efficient technology to effect higher energy savings both for the consumer and producer through information, education and communication campaigns, the intensified collaboration effort with the private sector in implementing energy efficiency programs through voluntary agreements, the continuous implementation and expansion of the appliance and equipment energy standards and labelling implementation of building energy usage standards, the integration of energy efficiency concepts in the procurement practices of the government, the provision of technical assistance in identifying, implementing and evaluating effective measures to improve energy use efficiency, the use of alternative fuel to reduce dependence on imported oil and the periodic program monitoring and evaluation to assess the effectiveness of the efficiency and conservation programs in the country as embodied in the National Energy Plan.

The use of EEL i.e. lamps, ballasts, luminaries is one of the programs by the government and the private sector in promoting energy efficiency also due to the easiness to install and retrofit in commercial, industrial, government and residential buildings.

Earlier initiatives and major programs related to EEL include the National Energy Efficiency and Conservation Program (NEECP), Power Patrol, Government Energy Management Program (GEMP), Partnership for Responsible Eco-zones (PEREZ), Partnerships for Energy Responsive Company (PERC) and development of lighting standards and labeling. A major EEL project started in 2002 with the Efficient Lighting Initiative (ELI) funded by the Global Environment Facility (GEF) and executed by the International Finance Corporation (IFC) for a total support of US\$15 million for three years in seven countries including the Philippines. ELI worked with lighting manufacturers, electric utilities, the public sector, NGOs, and educational institutions

to accelerate the growth of lighting markets in its seven target countries. ELI sought to have a sustainable, long-term impact, creating vibrant markets for EEL technologies and developed tools which were accessed by the Department of Energy (DOE) to have similar follow-up projects.

DOE is addressing the barriers to widespread utilization of EEL systems, which continue to exist despite the various government and private sector's programs/activities mentioned before.

3.2. Project objectives and strategy

To address the above-mentioned barriers, the United Nations Development Programme (UNDP) and the Department of Energy (DOE) developed a project to promote the application of energy efficient lighting in the country's public sector entitled "Philippine Efficient Lighting Market Transformation Project" (PELMATP). The preparation of the PELMATP project documentation started in September 2002 and the final draft was completed and submitted to UNDP-GEF in September 2003. The project was endorsed in November 2004 and project activities started in May 2005. The goal of the project is "the reduction in the annual growth rate of greenhouse gas (GHG) emissions from the energy sector through sustained and widespread utilization of energy efficient lighting (EEL) systems". The project purpose is "the removal of barriers to widespread utilization of EEL systems".

PELMATP is comprised of 5 major components, each of which is designed to address the barriers to the widespread adoption of EEL systems in the Philippines:

- **COMPONENT 1: EEL POLICIES, STANDARDS AND GUIDELINES ENHANCEMENT** through the establishment of a functioning mechanism for sustained periodic review/updating and enforcement of policies, standards, guidelines and programs on EEL applications, and implementation of minimum energy performance standards (MEPS) for EEL products.
- **COMPONENT 2: EEL APPLICATIONS INSTITUTIONAL AND TECHNICAL CAPACITY DEVELOPMENT** through activities that will strengthen capacity of relevant Government agencies on EEL product testing, labeling and development and market monitoring and enforcement of standards with the consumers.
- **COMPONENT 3: EEL APPLICATIONS CONSUMER AWARENESS IMPROVEMENT** through activities aimed at empowering consumers in making informed decision in choosing EEL products.
- **COMPONENT 4: EEL INITIATIVES FINANCING ASSISTANCE** including the implementation of activities aimed at achieving better quality EEL products becoming affordable and accessible to consumers; and establishment/enhancement of collaboration and partnership among organizations for promoting the adoption of EEL products and the creation/facilitation of business opportunities in EEL product financing.
- **COMPONENT 5: EEL SYSTEMS WASTE MANAGEMENT ASSISTANCE** for mitigating the negative environmental impacts brought by utilization of EELs, particularly the handling and disposal of mercury (Hg) from waste EELs.

The technology PELMATP is promoting are EELs energy efficient version of linear fluorescent lamps (i.e., slim tube T8 tri-phosphor), compact fluorescent lamps (CFLs), high intensity

discharge (HID) lamps, ballasts (low loss electromagnetic and electronic) as well as energy efficient luminaries.

Energy savings aimed at are an estimated 2,704 GWh and equivalent CO₂ emission reduction of 497,000 tonnes of CO₂.

Total investment during the execution of PELMATP project was estimated at USD 15.13 million, including a GEF contribution of USD 3.13 million.

3.3. General information about the evaluation

Creara Consultores was selected as final evaluator of the PELMATP project and a field mission to Manila was carried out in the first two weeks of December 2010 by Sam Gouda, Cristina Garcia and Nicola Bugatti. During the mission, extensive discussions and structured interviews were held with the PELMATP-PMO, DOE, UNDP Manila, and other stakeholders i.e. government offices, lighting importers and manufacturers, professional organizations. Some pilot projects were visited to meet the beneficiaries of PELMATP and meetings were held with service providers too.

A focus group discussion was organized with the TWG members.

After its arrival to Manila, the evaluation team received relevant project documents i.e. the Project Document and Executive Summary, APR-PIRs (annual project implementation reviews), and the documentation review was carried out in parallel to the meetings and the interviews.

After successfully completing the field mission, the evaluation team started the data analysis. Additional interviews were held through the telephone with UNDP Bangkok representatives and Cristina Garcia met with Arturo Zabala, PELMATP Project Manager, to clarify some aspects.

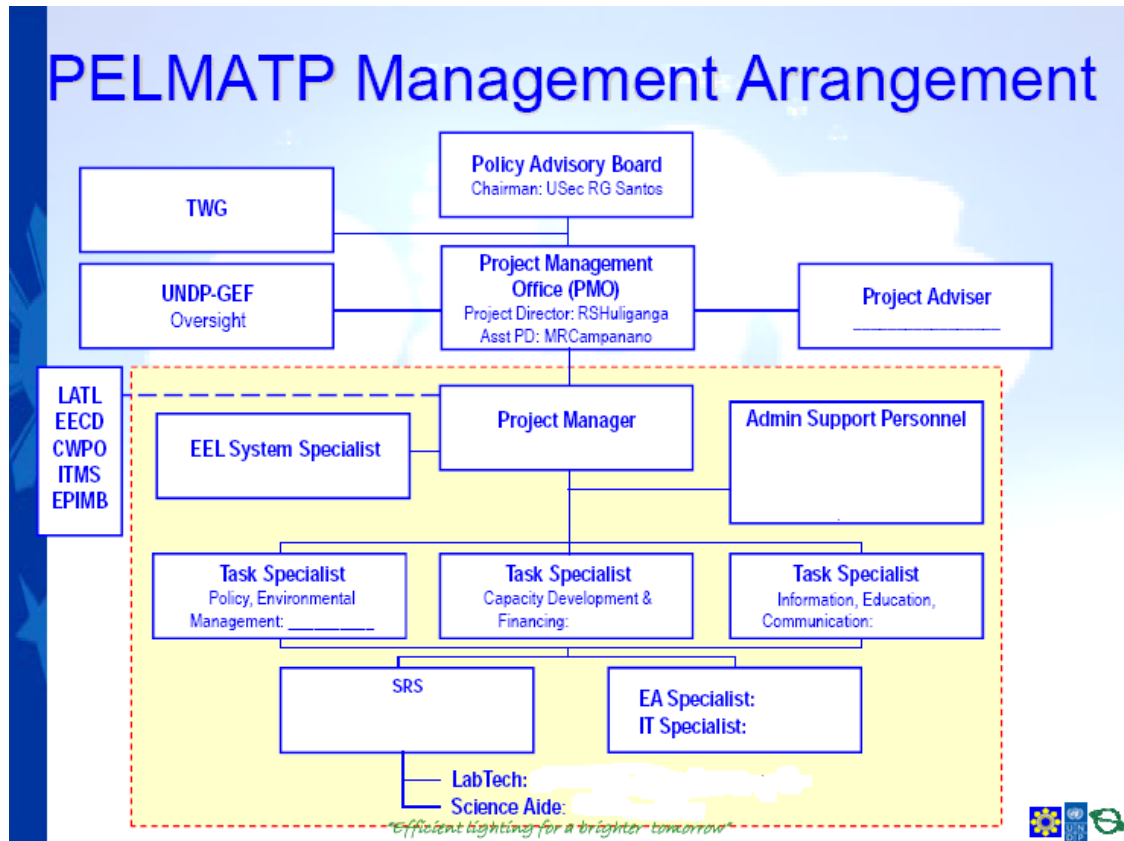
All the gathered information has been summarized in this document, the first draft of the evaluation report, submitted to the project stakeholders for inputs and review. Upon reception of their observations the evaluation team will elaborate and submit the final version of the report.

3.4. Project set-up and stakeholders

The Philippine Department of Energy (DOE), through its Energy Research and Testing Laboratory Services (ERTLS) is the national executing agency under the 'national execution' (NEX) modality. The Director of ERTLS acts as National Project Director (NPD) who heads the Project Management Office (PMO) and is responsible for the successful execution and implementation of the project toward achieving project objectives, coordination of PELMATP with related activities and accountability of project resources. The NPD is supported by the Head of the Lighting & Appliance Testing Division of ERTLS as Assistant Project Director.

Day-to-day operations of the PMO as well as the overall operational and financial management and reporting of the progress on activities and the use of UNDP funds are under the responsibility of the Project Manager. A complete overview of the initial PMO organization is given in the following figure.

Fig. 1: PELMATP-PMO implementation arrangement



When the evaluation was carried out a number of PMO positions were vacant due to the reduction of the project activities. Nevertheless it should be noted key positions i.e. IT specialist, Policy and Environment Management Specialists, Capacity, Development & Financing specialist, IEC Specialist had been vacant for a long period. The implication of such a situation will be analyzed in detail in the report.

A Policy Advisory Board (PAB) was set up to achieve coordination between the various project partners and to ensure high-level guidance to the PMO and to ensure that the outputs produced meet the requirements of the government and all beneficiaries. The PAB was chaired by a DOE Undersecretary (USEC). The PAB met on a regular basis and provided an opportunity to discuss the project progress reports, such as the Annual Performance Report (APR) and Projec Implementation Review (PIR) reports. Major decisions regarding project implementation had to be approved by the PAB.

The UNDP Country Office (CO) in Philippines, together with the UNDP Regional Technical Advisor for Climate Change (Asia-Pacific) facilitated and monitored project implementation and provided oversight on behalf of GEF. The UNDP participated in project review, steering committee meetings, work and budget planning meetings and monitoring and evaluation

visits. In addition, the UNDP CO provided a range of project services, such as recruitment of project personnel, overseas travel and procurement of equipment upon request from the PMO.

DOE established a Technical Working Group (TWG) to provide over-all guidance on key program activities including policy recommendations, fund commitments, and co-financing arrangements. The TWG consisted of DOE (EUMB, EPIMB, EECD, CWPO, LATL & ITMS), UNDP, PLIA, DTI-BPS, DTI-BOI, MERALCO, DENR-EMB, ERC, ENPAP (formerly, ENMAP), IIEE, DILG, DBM and other stakeholders.

The following sources of financing were provided by PELMATP partners for the project's budget of USD 15.43 million:

- GEF (managed by UNDP): USD 3.13 million
- Managed by partners (co-financing): USD 12.30 million, of which USD 10.16 cash and USD 2.14 million in-kind contributions:

A detailed analysis of the current level of disbursement of the co-financing can be found in the chapter 4.3.

4. PROJECT RESULTS

4.1. Achievement of project's objectives, outcomes and outputs:

This section of the report assesses the achievement of the project's objective, outcomes and outputs, providing ratings for the targeted objective and outcomes.

The project goal was to reduce the annual growth rate of greenhouse gas (GHG) emissions from the energy sector through sustained and widespread utilization of energy efficient lighting (EEL) systems.

The energy saving aimed at were estimated in the Project Document to 2,704 GWh and equivalent CO₂ emission reduction of 497,000 tonnes of CO₂.

A final survey was carried out by IIEE to quantify the CO₂ and electricity consumption reduction but the final results have not yet been distributed. Consequently at the moment the achievement of the project goal cannot be evaluated. A more detailed analysis about the M&E system can be found in the chapter 7.

The project purpose was to remove the barriers to widespread utilization of EEL systems.

PELMATP succeeded dealing with the poor protection of consumers, poor understanding of use and benefits of EEL products, building lighting system designers and developers lack knowledge on the full benefits of using EEL products in new commercial and industrial establishments, inadequate promotion and advocacy programs on application of EEL, lack of locally assembled energy efficient luminaries, non-implementation of, and outdated, Building Energy Use Guidelines, inadequate EEL testing facilities while it was not completely successful in addressing the high initial cost of EEL products, non-implementation of government incentives, poor quality of power supply, insufficient monitoring and

verification of products as to their compliance to PNS, poorly developed ESCO transactions and access to financing for lighting product manufacturers and consumers.

The project purpose, according to the Project Document, was to achieve about 57% of lamps and 56% of ballasts used in households and about 63% of lamps and 68% of ballasts used in commercial and industrial establishments are energy efficient by the end of the project.

The commercial and industrial monitoring program established by PELMATP showed 100% of lamps used in C&I were energy efficient by June 2009 although it was not possible to receive information about how many establishments submitted their reply. No data were available about the ballasts at household and C&I level. A more detailed analysis about the M&E system can be found in the chapter 7.

Overall the achievement of the project purpose can be considered Satisfactory (S).

The outcomes of each component will be analyzed in detail in the following chapters.

4.1.1. Component 1: EEL Policies, Standards and Guidelines Enhancement Program

This component aimed at enhance the existing EEL Systems Policies, Standards and Guidelines and establish new ones, involving the establishment of a functioning mechanism for sustained periodic review/updating and enforcement of policies, standards, guidelines and programs on EEL applications, and implementation of minimum energy performance standards (MEPS) for EEL products.

The overall achievement of this component is Satisfactory (S).

RELEVANCE OF THE COMPONENT OUTCOME

This component was important in addressing some barriers to the widespread use of energy efficient lighting systems such as:

- a) Non-implementation of, and outdated, Building Energy Use Guidelines.
- b) Inadequate EEL testing facilities.
- c) Insufficient monitoring and verification of products as to their compliance to PNS.
- d) High initial cost of EEL products.
- e) Non-implementation of government incentives.
- f) Poor protection of consumers.
- g) Poor understanding of use and benefits of EEL products.
- h) Inadequate promotion and advocacy programs on application of EEL.

This component addressed the challenge to align the PNS with the international standards.

The relevance of this outcome is Satisfactory.

EFFECTIVENESS OF THE COMPONENT OUTCOME

The main activities of this component aimed at put in place the structural changes that would encourage and institutionalize efficient lighting use.

A multi-sectoral working group (TWG) and a PAB were established since the beginning of the project to provide technical recommendations and policy-related decisions to support the PMO.

The guidelines on energy conserving design of buildings and the manual on efficient lighting were revised, presented and distributed to various cities and municipalities nationwide and various LGUs adhere to the guidelines. On top of that the manual on efficient lighting was included in the curricula of 130 undergraduate schools guaranteeing the continuous improvement of the technical knowledge in the country.

An outstanding job was done relating to the EEL standards: 25 PNS concerning safety and performance of lighting products, including 3 minimum energy performance standards or MEPS, were updated/ developed and a JAO for their mandatory implementation was signed by DTI Secretary and DOE Secretary. More than a half of the submitted lamps to LATL for testing are PNS compliant and 20% of CFL are MEPS compliant.

The PNS were enforced since the 1st January 2011 and this process presents important challenges, with an expected compliance of more than 50%. Last market monitoring results completed in September 2010 showed a compliance with yellow label of 0% for linear fluorescent, 4,76% for ballasts and 70% for CFLs. 72% of the CFLs purchased at the store by the evaluation team during the field mission, prior to the mandatory implementation of the PNS, had not yellow label, as far as the retailers were still allowed to sell lighting products without energy labels until July 01, 2011.

As part of the regional training for product assessors of the DTI, a market monitoring was also conducted to inform the retailers of the mandatory implementation of the energy labelling for lighting products. The mandatory implementation of the program shall be on July 01, 2011.

The PNS enforcement will be further discussed in the chapter 5.1 regarding the sustainability of the outcome.

Two VA were signed with EEL importers .

The voluntary agreement (VA) with local suppliers of lighting products is intended to create an environment in which they agree to voluntarily comply with performance standards way above or higher than the Philippine National Standards (PNS) limits. One supplier provides an average 10,000 burning hours for CFLs instead of 6000 burning hours as stipulated in the PNS. Also, one supplier provides 5 years warranty instead of mandatory one (1) year.

Generally, retailers/stores provide only one (1) year warranty on lighting products even before the mandatory implementation of warranty guidelines issued by the government through the Department of Trade and Industry.

30 energy audits were carried out as a regular function by the Energy Efficiency and Conservation Division (EECD) of DOE: out of these, 17 were retrofitted. In many opportunities only partial retrofitting could be used as far as PELMATP was requesting manufacturers and importers to donate EEL equipments to the government establishments receiving only lamps and few luminaries and electronic ballasts making it impossible to complete the full

retrofitting. Sometimes the donated products had not good quality i.e. in the retrofitting of the DTI-BPS HQ, T8 lamps from china were installed and got busted in few weeks. The energy audits had unbalanced distribution over the country territory being 84%in Luzon Island and 77% in Metro Manila.

The signature of the ex- President Gloria Macapagal-Arroyo of the Administrative Order No. 183 on 9 July 2007 which institutionalized the use of EEL systems in government facilities was another outstanding achievement of the project: as a consequence more than 300 government buildings nationwide reported to have implemented EEL projects.

Although the policy on government incentives for energy efficiency was updated and a guideline on availment of incentives of EELs was developed, zero manufacturers, suppliers, or distributors availed of incentives.

An eco-labelling guideline for lighting products was formulated and approved and although only 2 companies received the certificate, the perspectives are positive.

The consumers count now on guidelines on Warranty of Lamps and the majority (59.2%) of the respondent households to the final survey realized by IIEE are aware about it..

The overall effectiveness of this component is Satisfactory.

In the following table it is possible to observe the performance indicators of the outputs of this component.

Table 1: Performance indicators of the outputs of component 1

ACT.	DESCRIPTION	INDICATORS	ACHIEVEMENT
1.1	Mobilize and Operationalize PELMATP TWG	<ul style="list-style-type: none"> • Technical Working Group and Policy Advisory Board operational by 2005 and every year thereafter • 20 meetings held by end-2009 	<ul style="list-style-type: none"> • TWG established in 2005 • 39 TWG meetings • 9 PAB meetings
1.2	Update Lighting Systems Specification in the Building Energy Use Guidelines <ul style="list-style-type: none"> • Review and update Lighting System Guidelines • Conduct consultations • Train trainers from Office of Building Officials (OBOs) • Distribute the updated Building Energy Use 	<ul style="list-style-type: none"> • Revised Building Energy Use Guidelines documented and distributed to OBOs • 6 trainings for LGUs • 3 LGUs adhere 	<ul style="list-style-type: none"> • Revised the guidelines on energy conserving design of buildings and manual on efficient lighting, presented and distributed 2000 copies to the various cities and municipalities nationwide (17 local government units or LGUs in the National Capital Region, 90 in Luzon and 54 in the Visayas and Mindanao). • The manual on efficient lighting was included in the curricula of 130 undergraduate schools • 3 LGU adhere to the guidelines • 7 LGUs trained on the Guidelines

	Guidelines to OBOs		
1.3	<p>Review, update and implement lighting product standards</p> <ul style="list-style-type: none"> • Review existing lighting product standards • Update/formulate existing/new lighting product standards • Develop monitoring and evaluation system 	<ul style="list-style-type: none"> • 16 PNS standards updated/developed (of which 5 MEPS). • 75% of models submitted for testing are PNS compliant • % of PNS compliant samples are MEPS compliant (CFLs, LFLs, ballast 80%; HIDs and luminaires 75%) • LATL test records indicate that at least 75 % of EEL samples tested each year are MEPS compliant. • MEPS are upgraded by 10% by Year 3 and every 3 years, thereafter. • Updates on PNS and MEPS are documented. 	<ul style="list-style-type: none"> • 25 PNS concerning safety and performance of lighting products updated/ developed • 3 MEPS developed • 54% of the submitted lamps for testing are PNS compliant as shown by the LATL records • 20% of CFL are MEPS compliant (No data available for LFLs, HIDs, ballasts and luminaires) • Joint Administrative Order (JAO) for mandatory implementation of the updated/newly developed Philippine National Standards (PNS) for lighting products signed by DTI Secretary and DOE Secretary
1.4	<p>Develop and implement VA scheme with lighting manufacturers and distributors</p> <ul style="list-style-type: none"> • Identify and recommend voluntary standards to be implemented (by TWG) • Design and implement VA scheme with lighting manufacturers and distributors • Disseminate 	<ul style="list-style-type: none"> • VA with at least one local enterprise manufacturing and/or distributing each type of EEL product are signed and implemented each year starting Year 3. 	<ul style="list-style-type: none"> • 2 VA signed, with Digital Marketing, for electronic ballasts and with Mega Man for CFL

	information		
1.5	<p>Demonstrate and implement EEL systems in government buildings</p> <ul style="list-style-type: none"> • Install EEL system in a government school building • Issue an Executive Order for use of EEL systems in govt. bldg. • Disseminate information 	<ul style="list-style-type: none"> • An Executive Order on procurement policy to convert govt. bldg. to EEL passed by Year 2. • At least 5 govt. bldg. carry out EEL projects each year starting Year 3. 	<ul style="list-style-type: none"> • 1 administrative order by the President of the Philippines directing the use of energy efficient lighting systems in government facilities • 448 government buildings carried out EEL systems
1.6	<p>Formulate and implement incentives for EEL product importers/manufacturers and lamp waste recyclers</p> <ul style="list-style-type: none"> • Formulate incentives and guidelines • Disseminate guidelines through PELMATP website and other dissemination activities 	<ul style="list-style-type: none"> • At least 3 companies availing of incentives • Government incentives updated/implemented in Year 1 and included in the Investment Priority Plan during and beyond the PELMATP life. • Guidelines on how to avail of incentives distributed to manufacturers/importers by Year 2. 	<ul style="list-style-type: none"> • 0 manufacturers, suppliers, distributors availing of incentives • 1 policy on government incentives for energy efficiency updated and implemented • Inclusion of EEL manufacturing among the machineries and equipment that will be given incentives under the 2009 Investments Priorities Plan (IPP) approved by the Board of Investments on 13 May 2009 • 1 guidelines on availment of incentives of EELs developed
1.7	<p>Formulate and implement consumer protection guidelines</p> <ul style="list-style-type: none"> • Formulate EEL product warranty guidelines • Conduct consultation on the draft EEL product warranty guidelines • Formulate guidelines on labelling of lamps on proper handling and recycling • Conduct consultation on the draft guidelines on labelling of lamps on proper handling and recycling • Disseminate guidelines 	<ul style="list-style-type: none"> • At least one product with eco-labeling • EEL product warranty guidelines are implemented and lamp packages are labeled with "mercury containing lamps" and/or "recycle" by Year 3. 	<ul style="list-style-type: none"> • 1 eco-labeling guidelines for lighting products (linear/tubular, circular, and compact fluorescent lamps and electronic ballasts) formulated and approved by the Board of Eco-Labeling Program of the Philippines and 2000 copies of ecolabelling brochure (guidelines) for the promotion of eco-labelled lighting products distributed • 2 products obtained eco-labelling i.e. electronic ballasts by BAG and electrodeless lamps by Monrio Philippines • EEL product warranty guidelines are implemented

1.8	Monitor and evaluate implementation of EEL policies and standards	<ul style="list-style-type: none"> • Improvements in EEL policy implementation and impacts carried out by Year 2 and every year thereafter. • Results are documented and included in quarterly and annual PELMATP reports. • 4 reports on EEL policy implementation and impacts • 3 relevant recommendations for policy improvements on MEPS 	<ul style="list-style-type: none"> • 1 reports on EEL policy implementation and impact/s • 3 relevant recommendations for policy improvements on MEPS • See chapter 7 about M&E system
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EFFICIENCY OF THE COMPONENT OUTCOME

In general the implementation of this component was cost effective.

Some delays have occurred in the review and the implementation of the Guidelines, Standards and Lamp warranty by the Department of Trade and Industry (DTI) because of change in leadership in the bureau concerned, but it did not affect significantly the project cost effectiveness.

The delay in updating the policies and guidelines on government incentives for energy efficiency, due to the challenges in including the project activities in the 2009 plan, was among the reasons why zero manufacturers, suppliers, distributors were availing of incentives.

The incentives for energy efficient lighting (EEL) were included in the 2009 General Policies and Specific Guidelines in the Implementation of the 2009 Investment Priority Plan (IPP).

After the retrofiting at the government buildings, monthly monitoring in the field was not carried out but in few establishments: PELMATP lost the opportunity to gather real information from the pilot projects to be used to disseminate the experience and to give follow -up to the indicators. Additionally no awareness raising activities were done at pilot places.

The overall efficiency of this component is Satisfactory.

IMPACT OF THE COMPONENT OUTCOME

The intervention is expected to generate positive long term consequences mainly related to the performance requirements of the MEPS and PNS, the issuance of the Administrative Order No. 183 on 9 July 2007 which institutionalized the use of EEL systems in government facilities and the inclusion of the manual on efficient lighting in the school curricula. It is expected poor-quality products will be eliminated from the market while increasing the presence of high quality and EEL products.

4.1.2.Component 2: EEL Applications Institutional Capacity Building Program

This component aimed at developing the institutional and technical capacities on EEL application through strengthening the capacity of relevant Government agencies on EEL product testing, labeling and development and market monitoring and enforcement of standards with the consumers.

The overall achievement of this component is Satisfactory.

RELEVANCE OF THE COMPONENT OUTCOME

This component was important in addressing some barriers to the widespread use of energy efficient lighting systems such as:

- a) Inadequate EEL testing facilities
- b) Insufficient monitoring and verification of products as to their compliance to PNS
- c) High initial cost of EEL products
- d) Poor understanding of use and benefits of EEL products
- e) Building lighting system designers and developers lack of knowledge on the full benefits of using EEL products in new commercial and industrial establishments
- f) Inadequate promotion and advocacy programs on application of EEL
- g) Lack of locally assembled energy efficient luminaries

When initially identified, the PELMATP was also going to address the ineffective implementation of the DSM Framework but due to changes in the power sector in Philippines DSM was no longer attuned to the present restructured energy environment.

The relevance of this outcome is Satisfactory.

EFFECTIVENESS OF THE COMPONENT OUTCOME

The focus of this component was on institutional and technical strengthening primarily of the DOE's Lighting and Appliance Testing Laboratory (LATL), and the DTI-BPS.

Since the beginning of the project the testing capability of LATL had been improved through the installation of new equipments to test compact fluorescent lamps (CFLs), ballasts, linear fluorescent lamps (LFLs) and luminaries and staff were sent to trainings, both local and international i.e. USA, Canada, Malaysia, China. The capacity building for the staff was good in the use of the equipments but was not fully positive in understanding standards for testing and some training were missing i.e. weybull software.

LATL has been accredited by the Department of Trade and Industry through its Philippine Accreditation Office (DTI-PAO) for ISO/IEC 17025 to test CFL (March 1998), linear fluorescent lamps (August 2009); and LATL's Calibration Section which supports the laboratory's calibration but it could not receive the accreditation for the ballasts testing.

According to the LATL staff, thanks to the project, the results of the tests are now "more credible".

The LATL is now capable to serve 100 % of testing requests for CFL, LFL and ballasts. Over the PELMATP period, the elapsed time from the submission of the sample to the completion of the

test reduced about 40% for CFL. Nevertheless still there are 6 months queuing for LFL and FCL life testing and 4 months for 100 hours testing and a 3-5 months queuing for ballasts.

The average elapsed time from the submission of the sample to the completion of the test is approximately 350 days for CFLs.

As a consequence of the long queuing, it was reported several companies belonging to PLIA are going to private laboratories i.e. SEAL, for testing even if it costs approximately 5 times more.

In this sense it could be useful to consider alternatives for the life test in order to make it shorter using, for example, trending methodologies. It would allow also reducing the electricity costs associated with the testing. A more detailed analysis of LATL testing costs will be done in relation with the sustainability of its activities in the chapter 5.2 of this report.

On the other side the goniophotometer test facility, the most expensive equipment purchased by the project, has been underutilized.

The manufacturer and importers of EEL systems are responding positively to the new legislative scenario. Even if the number of requests for CFL testing did not vary significantly over the project period, the number of certified brands and models increased and more than half of the lamps submitted for testing at LATL are PNS compliant. 72% of the CFLs purchased at the store by the evaluation team during the field mission, prior to the mandatory implementation of the PNS, had not yellow label, as far as the retailers were still allowed to sell lighting products without energy labels until July 01, 2011.

Still local manufacturers have problems in competing with cheaper products from abroad due to the commercial agreements between ASEAN countries and with China: as a result there are no manufacturers in the Philippines for ballasts, CFLs and fluorescent lamp and only small increases in the investments in EEL occurred over the project duration.

Due to changes in the power sector in Philippines DSM IS no longer attuned to the present restructured energy environment (EPIRA).

EEL distribution channels via consumer cooperatives have not resulted in a sustainable model that can be replicated based on the discussion with different stakeholders, although consumer cooperatives have been identified and forging of partnership agreements through the signing of Memorandum of Agreement (MOA) have been accomplished and the CFL has been added to the basket of goods that can be financed, the financing of EEL remains to be difficult.

The implementation of the street lighting guidelines was only carried out in 2 LGUs (Valenzuela and Cagayan de Oro) and both projects were quite small, respectively 14 and 50 lamps. At pilot site the city hall technicians feel they lack technical knowledge about the energy efficient street lighting and need more training as far as they only received short seminars.

This activity resulted in an issuance of City Ordinance (Cagayan de Oro City).

DOE-PELMATP signed MOA with 8 professional organizations wherein the latter committed to adopt the EEL training module for professionals/ designers developed under the project as part of their respective regular professional development courses/training/seminars catered to their respective members.

The demonstration activities to C&I establishments were carried out through lighting energy audits and retrofitting: manufacturers and importers donated only lamps and few luminaries and ballasts making it impossible to complete the full retrofitting in many establishments.

The overall effectiveness of this component is Satisfactory (S).

In the following table it is possible to observe the performance indicators of the outputs of this component.

Table 2: Performance indicators of the outputs of component 2

ACT.	DESCRIPTION	INDICATORS	ACHIEVEMENT
2.1	Accredit DOE-LATL to ISO/IEC 17025 for ballasts and linear lamps and DTI-BPS to APLAC <ul style="list-style-type: none"> • Prepare LATL for accreditation • Conduct accreditation of LATL to ISO/IEC 17025 • Conduct accreditation of DTI-BPS to APLAC 	<ul style="list-style-type: none"> • Upgrade testing • Accreditation LATL for testing of ballast and LFLs (ISO/IEC 17025); • LATL acquired ISO/IEC 17025 Certificate by Year 2. • DTI-BPS acquired APLAC certificate by Year 1. 	<ul style="list-style-type: none"> • LATL received the accreditation for linear lamps, not for the ballasts • DTI-BPS acquired accreditation to APLAC
2.2	Upgrade testing capability of DOE-LATL <ul style="list-style-type: none"> • Procure and install lighting systems testing equipment and acquire reference materials • Train DOE-LATL staff 	<ul style="list-style-type: none"> • Improvement of testing capability of LATL (through the purchase of major equipment and construction of test facility for light sources and luminaries) • 90% of testing requests (CFLs, LFLs, ballasts, HIDs and luminaries) • LATL-DOE procured testing equipment and met testing demands of BPS-DTI, market and other PELMAT activities. • DOE staff acquired certificates for successful completion of trainings. • DOE-LATL and DTI-BPS data shows: <ul style="list-style-type: none"> - 20% increase in brands and models of certified EEL products by Year 2 - 20% of EEL products in the market comply with international EE standards by Year 5. 	<ul style="list-style-type: none"> • Improved facilities for testing of CFLs, LFLs, ballasts and luminaries • 100 % of testing requests served - CFLs • 100 % of testing requests served - Linear lamps • 100 % of testing requests served - Ballast • DOE staff acquired certificates for successful completion of trainings • 30 % increase in brands and models of certified EEL products • compliance with yellow label: 0% for linear fluorescent, 4,76% for ballasts, 70% for CFLs (market monitoring results at September 2010) • 54% of the lamps submitted for testing at LATL are PNS compliant
2.3	Conduct R&D work on local application of EEL systems <ul style="list-style-type: none"> • Review R&D needs and develop procedures • Conduct R&D 		<ul style="list-style-type: none"> • 3 R&D conducted by LATL¹
2.4	Develop and implement lighting product monitoring program <ul style="list-style-type: none"> • Formulate and implement 	<ul style="list-style-type: none"> • 20% increase in (certified) EEL brands and products 	<ul style="list-style-type: none"> • 30 % increase in brands and models of certified EEL products by June 2009

¹ Assessment of the efficiency and performance of roadway luminaries using goniophotometer, assessment of the efficiency and performance of indoor luminaries using goniophotometer, assessment of energy efficiency of utilized street and office CFL.

	<p>lighting product monitoring program</p> <ul style="list-style-type: none"> • Disseminate technical and energy performance specifications of EEL products in the market 	<ul style="list-style-type: none"> • 20% of products comply with international EE standards • At least 3 ratings for EEL products • 50% increase in investment • Database established of manufacturers, suppliers and products 	<ul style="list-style-type: none"> • 54% of the lamps submitted for testing at LATL are PNS compliant • there are no records of certified products as far as the software database has not yet been prepared • 3 energy efficiency ratings for EEL established • 2 % of local manufacturers increased investment in energy efficient ballasts and fixtures by June 2008
2.5	<p>Establish local manufacturing capacity and lighting services industry</p> <p>Conduct inventory and design database</p> <ul style="list-style-type: none"> • Assess manufacturing capabilities of local lighting manufacturers and identify potential improvements • Select 5 ballast manufacturers and 10 lighting fixtures manufacturers for assistance • Prepare project proposal, business plans and link with manufacturers with financing Institutions • Evaluate product design and manufacturing process improvements at FUMACO and QUANTUM Mfg. Plants • Install equipment and test performance of improved product design • Train manufacturers on lighting design and production technologies • Disseminate results of demonstration 		
2.6	<p>Review and update DSM Framework and DSM Plan templates</p>	<ul style="list-style-type: none"> • Review update DSM framework and train utilities on DSM plan preparation 	<ul style="list-style-type: none"> • Due to changes in the power sector in Philippines DSM IS no longer attuned to the present restructured energy environment (EPIRA). Consequently the realignment of funds for DSM was carried out
2.7	<p>Train utilities and RECs on preparation of DSM Plan particularly on EEL Systems Application</p>	<ul style="list-style-type: none"> • At least 10 utilities and 5 RECs prepare DSM plan; distribute EEL products • Utilities and RECs had prepared DSM Plans by Year 3. • At least 5 cities carried out EEL street lighting each year starting Year 4. • 50% of utilities/RECs installed EEL systems for street lighting by Year 5. • Activities by utilities, RECs, cities involved in PELMATP documented and reported in the quarterly and annual 	

		project reports.	
2.8	Design and implement EEL Product Leasing Model in one REC <ul style="list-style-type: none"> Disseminate results for replication by other utilities and RECs 	<ul style="list-style-type: none"> At least 5 utilities/RECs become EEL products distribution channels by Year 4. 	<ul style="list-style-type: none"> 1 RECs become EEL product distribution channels
2.9	Design and implement street lighting guidelines <ul style="list-style-type: none"> Disseminate guidelines and results of demonstration project for replication by other utilities and RECs and municipalities/cities 	<ul style="list-style-type: none"> 1 street lighting guideline in year 3 10 LGUs carrying out EE street lighting 	<ul style="list-style-type: none"> 1 street lighting guidelines designed and implemented 2 LGUs (Valenzuela and Cagayan de Oro) carrying out EEL street lighting 3 large utilities/RECs installed EEL systems for street lighting
2.10	Design EEL calculators for HH and C&I <ul style="list-style-type: none"> Promote use of calculators in DOE's Power Patrol Program and other PELMATP activities 	<ul style="list-style-type: none"> 3 calculators designed by year 2 	<ul style="list-style-type: none"> 3 energy savings calculator designed, disseminated and used for Households and Commercial and Industrial establishments
2.11	Conduct training on EEL Application for lighting system designers <ul style="list-style-type: none"> Design training modules Conduct training 	<ul style="list-style-type: none"> 20 people trained by year 4 and 50 by year 5 	<ul style="list-style-type: none"> No data available
2.12	Develop and implement mass purchasing agreements between establishments and manufacturers/suppliers <ul style="list-style-type: none"> Disseminate results of demonstration project for replication by other buyer groups 	<ul style="list-style-type: none"> 5 agreements and 3 companies implementing by year 4 	<ul style="list-style-type: none"> 2 mass purchasing agreements developed and implemented in private establishments
2.13	Disseminate PELMAT program and EEL system application demonstration activities to C&I establishments <ul style="list-style-type: none"> Disseminate information Select firms to participate in EEL System Application Demonstration 	<ul style="list-style-type: none"> 50% of investment in 9 industrial and 9 commercial demo sites recovered by year 5; 63% of lamps used in industrial and in commercial establishments are EE; Information materials disseminated Dissemination activities are reported in the Quarterly and Annual PELMATP reports. 	<ul style="list-style-type: none"> 9 energy audits carried out in industries and 17 in commercial establishments 16 (C&I) establishments were retrofitted after the retrofitting, monthly monitoring of the establishment bills was not carried out: no information is available for the follow-up of the investment recovery 100% of lamps used in industrial establishments are energy efficient 100% of lamps used in commercial firms are
2.14	Implement EEL systems application demonstration to industrial and commercial establishments <ul style="list-style-type: none"> Procure energy audit equipment Conduct energy audit Assess and identify appropriate EEL systems and design monitoring procedures 		

	<ul style="list-style-type: none"> • Install EEL systems • Monitor and evaluate of benefits 		energy efficient
2.15	Disseminate results of EEL systems application to industries and commercial establishments <ul style="list-style-type: none"> • Disseminate information materials 		
2.16	Monitor and evaluate implementation of development of institutional and technical capacity on EEL applications		<ul style="list-style-type: none"> • See chapter 7 about M&E system

EFFICIENCY OF THE COMPONENT OUTCOME

In general the implementation of this component was cost effective.

Some delays have occurred in procuring consulting as well as technical assistance services i.e. implementation of the design of EEL Calculators, but it did not affect significantly the project cost effectiveness.

Due to the delay in requesting the turn over of the equipments by the Filipino government, PELMATP maintained the responsibility over the purchased equipments and had to pay for some reparations i.e. the hybrid recorder.

Timing in acquiring the testing equipments for the laboratories in supporting the standards was not always appropriate i.e. goniophotometer was purchased in 2008 while the original plan was to have all the standards in place in the first 2 years.

After the retrofitting, monthly monitoring in the field was carried out only in few establishments: PELMATP lost the opportunity to gather real information from the pilot projects to be used to disseminate the experience and to give follow -up to the indicators. Additionally no awareness raising activities were done at pilot places.

The overall efficiency of this component is Satisfactory.

IMPACT OF THE COMPONENT OUTCOME

The intervention has generated positive long term consequences.

The PELMATP activities under this component have not only strengthened the capacity of the LATL but also the private sector laboratories i.e. IIEE and SEALS, have been benefited by the project, enhancing their business volume.

The activities with the C&I companies raised the interest of the people as demonstrated by the fact 12 out of 16 retrofitted establishments under PELMATP were carried out using clients money instead of donor funds. It is expectable these activities will have a positive replication effect after the project ends.

4.1.3.Component 3: EEL Applications Consumer Awareness Improvement Program

This component aimed at improve the consumer awareness on EEL applications through activities aimed at empowering consumers in making informed decisions in choosing EEL products.

The overall achievement of this component is Satisfactory (S).

RELEVANCE OF THE COMPONENT OUTCOME

This component was important in addressing some barriers to the widespread use of energy efficient lighting systems such as:

- a) High initial cost
- b) Non-implementation of incentives
- c) Poor understanding of EEL use and benefits
- d) Lack of knowledge & simplified tools
- e) Inadequate promotion & advocacy
- f) Lack of locally assembled EE luminaries

The relevance of this outcome is Satisfactory (S).

EFFECTIVENESS OF THE COMPONENT OUTCOME

Outstanding efforts were done by the PELMATP in this component with a number of completed activities i.e. Annual Conventions, Presentation of PELMATP to different authorities/organizations, Participation of the PELMATP as speaker/trainer, Participation as exhibitor, Signed Memorandum of agreements, Palit-llaw activities, Appearance on TV/Radio, Newspaper Exposure.

PELMATP also achieved the Illumination Design Engineering course to be included in the Electrical Engineering Course based on CHED letter to the PMO.

Although Arthur Andersen “market assessment study on energy efficient lighting products in Philippine urban centres”, carried out in 2000 under ELI project, showed 75% of households were already familiar with CFLs, PELMATP definitively penetrated the market with CFL awareness. On the other side, the population did not achieve the same awareness level concerning other technologies i.e. electronic ballasts and efficient fluorescent tubes.

Official data from DTI shows CFL sales were reduced 5%, LFL’s increased 62% as the ballasts (11%) while HID and luminaries’ figures did not vary.

Electronic ballasts for fluorescent still have a smaller market share than magnetic ballasts but it has been increasing especially in the commercial market segment, where it is easy to convince customers they typically have one year payback. The increased trend is reflected by the increasing in electronic ballasts orders.

The project website received a number of hits but it experienced also some challenges at a certain point of the project due to non-availability of IT Specialist to update web content and

enhance website functionality and now it seems to be abandoned, with no news having been published since August 2009.

The effectiveness of this outcome is Satisfactory (S).

In the following table it is possible to observe the performance indicators of the outputs of this component.

Table 3: Performance indicators of the outputs of component 3

ACT.	DESCRIPTION	INDICATORS	ACHIEVEMENT
3.1	Conduct annual convention of lighting industry in the Philippines	<ul style="list-style-type: none"> 5 Annual forums among stakeholders are held and sustained throughout the project life and beyond with the participation of the 100,000 people 	<ul style="list-style-type: none"> 11 Annual fora among stakeholders held i.e. IIEE National Convention, SMEX, ENAP - Energy Technology Conference 9,300 participants to the annual fora
3.2	Promote EEL products to household <ul style="list-style-type: none"> Design and run TV-plugs Disseminate information materials 	<ul style="list-style-type: none"> % increase in sales of EEL products each year attributed to promotions on major national and regional newspapers during the project life (CFL-20%, LFL-20%, Ballasts-10%, HID-10%, Luminaire-10%) 10 electric utilities/cooperatives distributing EEL promotional materials to households Tri-media promotional activities/advocacies <ul style="list-style-type: none"> 5 TV shows where PELMATP was featured 5 print articles, including web-based 5 radio programs where PELMATP was featured 50,000 infokits/brochures/leaflets distributed 40 seminars/IEC activities organized/participated 	<ul style="list-style-type: none"> % increase in sales of EEL products each year attributed to promotions on major national and regional newspapers during the project life (CFL-(-5)%, LFL-62%, Ballasts-11%, HID-0%, Luminaire-0%) 5 electric utilities/cooperatives distributing EEL promotional materials to households 30 TV shows where PELMATP 46 print articles, including web-based 9 radio programs where PELMATP was featured 63,200 infokits/brochures/leaflets distributed 134 seminars/IEC activities organized/participated with 3,084,090 participants who attended/witnessed the said seminar
3.3	Consolidate and disseminate data generated from and results of PELMATP and other related activities <ul style="list-style-type: none"> Design and implement website 	<ul style="list-style-type: none"> About 100 hits on PELMATP website each month starting Year 3. Results of PELMATP activities are disseminated through prints starting Year 1 and through the website starting Year 3. 	<ul style="list-style-type: none"> PELMATP website created and including the results of PELMATP activities 1,381,927 hits made on the website

3.4	Design, test and implement EEL courses	<ul style="list-style-type: none"> • Inclusion of EEL Training in School Curricula <ul style="list-style-type: none"> ○ 2 modules developed ○ 6 schools adopting EEL module ○ 15 schools that include the EEL subject in their curricula ○ 500 student trainees on EEL application and use • 25 % of student/trainees engaged in the EEL industry 	<ul style="list-style-type: none"> • 2 modules developed • 10 schools adopting EEL module • 15 schools that include the EEL subject in their curricula- • 18 student trainees on EEL application and use up to June 2008. • No data available about the % of student/trainees engaged in the EEL industry
3.5	Monitor and evaluate implementation of EEL Applications Consumer Awareness Improvement Program	--	<ul style="list-style-type: none"> • See chapter 7 about M&E system

EFFICIENCY OF THE COMPONENT OUTCOME

In general the implementation of this component was cost effective.

Some challenge was experienced in relation with the website poor utilization for IEC due to non-availability of IT Specialist to update web content and enhance website functionality.

After the retrofitting, monthly monitoring in the field was not carried out but in few establishments: PELMATP lost the opportunity to gather real information from the pilot projects to be used to disseminate the experience and enhance the public awareness.

The overall efficiency of this component is Satisfactory (S).

4.1.4.Component 4: EEL Initiatives Financing Assistance Program

This component aimed at implement the EEL initiatives financing assistance program through activities aimed at achieving better quality EEL products becoming affordable and accessible to consumers; and establishment/enhancement of collaboration and partnership among organizations for promoting the adoption of EEL products and the creation/facilitation of business opportunities in EEL product financing.

The overall achievement of this component is Unsatisfactory (U).

RELEVANCE OF THE COMPONENT OUTCOME

This component was important in addressing some barriers to the widespread use of energy efficient lighting systems such as:

- a) High initial cost
- b) Inadequate promotion & advocacy
- c) Ineffective implementation of DSM framework
- d) Poorly developed ESCO transactions

The relevance of this outcome is Satisfactory (S).

EFFECTIVENESS OF THE COMPONENT OUTCOME

A good job was done in training the consumer cooperatives and to design the appropriate micro- financing scheme. Unfortunately the EEL distribution channels via consumer cooperatives have not completely resulted as far as only 4% of the registered/ accredited consumer's cooperatives in the country became EEL distribution channels including the EEL in their basket of goods that can be financed. Additionally no data are available to evaluate the amount, the number and the concept of the granted credits.

The partnership agreements through the signing of MOA have been accomplished i.e. two buildings constructed by AFCCCO were built in 2010 using EEL, although the cooperatives would have needed more support from the PELMATP to open a lending window for EEL with a revolving fund of about 5.000.000 pesos. It was a critical assumption of the project "GEF to support provision of seed money"

A lot of efforts were done to promote the ESCO projects i.e. Guidelines on how to utilize DBP credit facility, Energy Performance Contracting (EPC) between creditor and the Bank, Guidelines on framework to establish monitoring and verification protocols for future ESCO contracts and Draft ESCO accreditation report, ESCO accreditation by DOE-EUMB, but only two projects were finally carried out with the service providers being also the financial entity. Other attempts i.e. at BDO and DBP, were not successful.

The training of the financing institutions and the design the financing guidelines for EEL were completed but at the end of the project no private and government financial institutions and universal/commercial banks have provided loans for EEL and only one firm availed EEL system project financing. Some key issues i.e. the government procurement reform act of 2003 and the hard collaterals were not properly addressed and constituted the main barriers to the EEL financing implementation.

Still the financing of EEL remains to be difficult: the effectiveness of this outcome is Unsatisfactory (U).

In the following table it is possible to observe the performance indicators of the outputs of this component.

Table 4: Performance indicators of the outputs of component 4

ACT.	DESCRIPTION	INDICATORS	ACHIEVEMENT
4.1	<p>Design and implement of Micro Financing Model</p> <ul style="list-style-type: none"> • Train cooperatives 	<ul style="list-style-type: none"> • Micro financing models designed and implemented • By Year 5, 25% of consumer's cooperatives in the country become distribution channels of EEL products • 57% of lamps and ballasts used by households are energy efficient. 	<ul style="list-style-type: none"> • Microfinancing scheme formulated and implemented in 4 cooperatives i.e. St. Francis Xavier Housing Cooperative, the Philippine Home Savers and Builders Cooperative (PHSBC), the Power for Progress Foundation Philippines (PPFP), the First Community Cooperative (FICCO) • 4% registered/ accredited consumer's cooperatives in the country become EEL distribution channels • 60% of lamps used by households are energy efficient. • No data are available concerning the kind of ballasts used by households
4.2	<p>Develop and implement ESCO-led projects</p> <ul style="list-style-type: none"> • Develop energy performance model • Market for ESCO services established 	<ul style="list-style-type: none"> • Energy performance models developed utilized by 3 ESCOs starting Year 3. • 5 Energy performance contracting on EEL projects being implemented with about US\$ 300,000 worth of transactions by Year 5. 	<ul style="list-style-type: none"> • 2 ESCOs utilizing energy performance models and procedures for M&V i.e. Tri-Gen and Yumex/UFC • 2 energy performance contracting for EEL projects being implemented
4.3	<p>Build capacity of EEL business financing institutions</p> <ul style="list-style-type: none"> • Develop EEL financing guidelines and arrangements • Conduct training 	<ul style="list-style-type: none"> • Financing guidelines for EEL designed and implemented by Year 2. • At least 5% of private and govt. financial institutions received training • At least 3 private and govt. financial institutions and commercial banks are providing loans for EEL projects by Year 5. • A portfolio of EEL systems projects amounting to US\$3.9 million is financed by DBP by Year 5. • 5 FIs are considering providing loans for EEL projects • About 50 C&I firms availed of EEL system project financing. • 15 projects that have recovered 50% of investment halfway their expected payback period 	<ul style="list-style-type: none"> • 1 Financing guidelines for EEL projects are designed and implemented • Trained ten (10) financing institutions on financing of energy efficient lighting projects nationwide • 0 private and government financial institutions and universal/commercial banks providing loans for EEL DBP did not finance any EEL project • 0 FIs are in the process of creating financing window of EEL • 1 industrial and commercial firms availing EEL system project financing • No information about the number of projects that have recovered 50% of investment halfway their expected payback period
4.4	<p>Develop and implement VA agreements with</p>	<ul style="list-style-type: none"> • VAs with at least 3 firms each in C&I establishments are implemented by Year 3. 	<ul style="list-style-type: none"> • 3 VAs with industrial and 4 with commercial buildings implemented

	C&I	<ul style="list-style-type: none"> • Evaluate results of EEL initiatives financing assistance program 	<ul style="list-style-type: none"> • 15 VA with industrial and 15 with commercial buildings by year 4 • At least 10% of lighting energy consumption is reduced in each firms involved in VA scheme by Year 4. 	
4.5	Monitor and evaluate implementation of EEL Initiatives Financing Program	--		<ul style="list-style-type: none"> • See chapter 7 about M&E system

EFFICIENCY OF THE COMPONENT OUTCOME

In general the implementation of this component was cost effective.

Some challenge was experienced in relation with partnership agreements between the cooperatives and the project due to the late signature i.e. 4th year of the project. In that sense it could have been better to sign a longer MOU with the DOE instead than with the project to give sustainability to the intervention.

The overall efficiency of this component is Satisfactory (S).

IMPACT OF THE COMPONENT OUTCOME

The intervention has generated positive long term consequences as far as the DOE-EUMB is carrying out ESCO accreditation.

4.1.5.Component 5: EEL System Waste Management Assistance Program

This component aimed to improve the management and disposal of mercury (Hg) containing lamp wastes to mitigate the environmental impacts brought by utilization of EELs, particularly the handling and disposal of mercury (Hg) from waste EELs

The overall achievement of this component is Moderately Unsatisfactory (MU).

RELEVANCE OF THE COMPONENT OUTCOME

This component was important in addressing some barriers to the widespread use of energy efficient lighting systems such as:

- a) Poor protection of consumer
- b) Inadequate promotion & advocacy

The relevance of this outcome is Satisfactory (S).

EFFECTIVENESS OF THE COMPONENT OUTCOME

Although a very good job was done in formulating and disseminate the policy and the guidelines on handling mercury- containing lamps, PELMATP was not fully successful in supporting the enforcement of the legislation and did not achieve completely positive outcomes concerning lamp waste management at the final user level, especially in the households.

Although some material recovery facilities / treatment plants included the mercury- containing lamps among their services, they are not well distributed in the territory, being all of them within 20 km from Metro Manila. No lamps waste recycling facility was established and no by-products buyers could be identified.

The effectiveness of this outcome is Moderately Unsatisfactory (MU).

In the following table it is possible to observe the performance indicators of the outputs of this component.

Table 5: Performance indicators of the outputs of component 5

	DESCRIPTION	INDICATORS	ASSESMENT OF PROJECT RESULTS: EFFECTIVENESS
5.1	Formulate and implement policies and guidelines on managing Hg containing lamp wastes <ul style="list-style-type: none"> • Conduct policy study and develop national policy and LGU guidelines in managing Hg containing lamp wastes • Conduct consultation of national guidelines • Prepare national directory of lamp waste recyclers • Establish specifications of local buyers for recycling by-products 	<ul style="list-style-type: none"> • Policy and guidelines formulated by year 3 and 4 respectively • Guidelines on mercury containing lamps incorporated in the national and local solid waste management plans. • About 100 guidebooks distributed by year 5; 500 posters/flyers produced; 65 TV/radio activities • Two seminars/training conducted • National directory of lamp waste generators, recycling/disposal firms and buyers of byproducts are disseminated by Year 2. • Specifications of recycled by-products from lamp wastes are available by Year 1. • Material recovery facilities in Metro Manila incorporate lamp waste recycling by Year 3. • National Solid Waste Commission, local governments and at least 2 NGOs incorporate lamp waste management during their information campaigns/trainings. 	<ul style="list-style-type: none"> • 1 policy study formulated on handling mercury- containing lamps • 1 guidelines formulated on handling mercury- containing lamps • 2,000 guidebooks distributed on handling mercury- containing lamps • 1,600 posters and flyers produced and distributed • 3 consultations/ seminars/ trainings • 1 national directory of lamp waste transport and treatment/ processing facilities (TSD) • No by-products buyers database was done because nobody buys them in the Philippines • 5 Material recovery facilities / treatment, storage, and disposal in Metro Manila processing lamp wastes
5.2	Disseminate information		

5.3	<p>Establish recycling facility for Hg containing lamp wastes</p> <ul style="list-style-type: none"> • Obtain EIS and accredit facility to DENR • Construct recycling facility • Promote and market lamp waste recycling facility 	<ul style="list-style-type: none"> • About 30% of Hg containing lamp wastes in Metro Manila and CALBARZON areas are processed by the recycling facility by Year 5. • Data of lamp waste recycling facility operations reported in the quarterly and annual project reports • Two lamp processing facilities by year 5 • 1 lamp recycling facility operating in Luzon 	<ul style="list-style-type: none"> • no recycling facilities in place
5.4	<p>Monitor and evaluate implementation of EEL Systems Waste Management Assistance Program</p>	<ul style="list-style-type: none"> • Activities and results are disseminated by Year 1 and every year thereafter. Results are documented and included in quarterly and annual project reports • 30% of lamp wastes (large generators) properly disposed of by year 5 	<ul style="list-style-type: none"> • no data available concerning the lamp wastes (large generators) properly disposed • See chapter 7 about M&E system

EFFICIENCY OF THE COMPONENT OUTCOME

In general the implementation of this component was cost effective.

Some challenge was experienced in relation with the GlobeCare withdrawal from the project and its substitution with DoloMatrix Philippines after 2 years of project implementation.

The overall efficiency of this component is Satisfactory (S).

IMPACT OF THE COMPONENT OUTCOME

The intervention has generated positive long term consequences.

The business volume of the lamp waste processing facilities i.e DoloMatrix has increased during the project period and it is expected this trend will follow after the intervention conclusion.

Thanks to the PELMATP work on lamp waste management, the revision of the law 6969 to include also the households in its scope is expected to be signed in the first half of 2011.

4.2.Capacity Development

Under the PELMATP the capacity of the DOE to ensure quality and performance of EELs in the local market, already good before the project began, were additionally strengthened both directly, with the activities under the component 2 i.e. LATL equipments, staff trainings, and indirectly in the daily activities of the project management, thanks also to the support from UNDP Manila in the human resources recruitment and the procurement of the LATL equipment. The PMO also improved its capacity in the project management during the PELMATP but the majority of the staff, as far as they were not DOE staff (but the Project

Director and the Project Director Assistant), left before or at the end of the project weakening somehow the daily project management capacity building.

The PELMATP had a strong crosscutting capacity building aspect through all the components and the outstanding efforts in the many completed trainings and publications were useful and successful in strengthening the capacities of the government offices i.e. DTI-BPS, the lighting manufactures, importers and associations i.e. PLIA, the private sector entities i.e. consumer cooperatives, utilities, financing entities as well as the lighting companies and professionals who can now use the guidelines and the acquired knowledge in their daily activities.

4.3. Leverage

The estimated total disbursement of the cash cofinancing of the project partners was to June 2010 only 2% of the committed amount (about 200.000 USD out of 10.000.000 USD).

On the other side the estimated total in-kind cofinancing of the project partners was to June 2010 about 4.400.000 USD more than doubling the committed 2.100.000 USD

Globally, the cofinancing of the project partners was to June 2010 about 38% of the committed amount with 7.500.000 USD pending.

The PMO and UNDP consider the project outputs, outcomes and objectives achievement was not negatively affected by the lack of fulfillment of the committed cofinancing.

4.4. Awareness Raising

The PELMATP had a strong crosscutting awareness raising aspect through all the outcomes and the component 3 was specifically aimed at improve the consumer awareness on EEL applications through empowerment of the consumers in making informed decisions in choosing EEL products.

Under this component PELMATP tried to reach out to more Filipinos, as well as partner with international lighting industry players and stakeholders, in advocating the shift to the use of compliant energy efficient lighting systems (EELs), relating it not only to energy security but also to climate change as well as the health of Filipinos and their household budget.

Of course it is difficult to promote the environmental protection with poor people who has yet to fulfill other basic needs i.e. food, shelter, income generating activities and who are exposed to more hazardous wastes than busted lamps i.e. chemical industry, human waste, lack of sanitation: PELMATP in this sense was not completely successful in reaching this part of the population.

The achievements of this component have been described in details in the 4.1.3 chapter.

On top of the activities completed within the PELMATP timeframe, the awareness raising about EEL will continue thanks to the DOE-CWPO IEC initiatives and the inclusion of the manual on efficient lighting in the curricula of the undergraduate schools.

The GEF and UNDP were visible throughout the whole project and their logos, together with the DOE's, have been included in all the education materials, guidelines reports as well as in the project webpage.

5. SUSTAINABILITY OF PROJECT OUTCOMES

This section of the report assesses the likelihood of sustainability of the outcomes of the PELMATP, providing a rating for this.

5.1. Component 1: EEL Policies, Standards and Guidelines Enhancement Program

The sustainability of this component is analyzed in all its aspects.

FINANCIAL

IIEE and DOE signed an agreement allowing the DOE to maintain the copyright of the publication while IIEE updates it every 3 years and recover the investment by selling the new material. 30% of the recovered money would go to DOE to fund IEC campaigns.

This way the financial sustainability of the publications updating is achieved and it is also contributing to the funding of the IEC activities under component 3 follow-up.

On the other side an important threat to the financial sustainability of the outcome is related with the lack of available budget at DTI-BPS to carry out the market monitoring activities and to train new staff from the regional and provincial offices once those trained by PELMATP get retired or move to another office. In order to buy the samples to be tested during the market monitoring and to pay the testing fees DTI-BPS would need around 3.000.000 - 4.000.000 pesos per year. DTI-BPS needs to request the money to the central government but for the year 2011 they did not request any funds for these activities.

A possibility which might be further analyzed to guarantee the financial sustainability of the market monitoring is the PPP with private lighting companies: while DTI would be still in charged of the enforcement of the PNS, the market monitoring and the inspection of the shipments, paid by the clients, could be carried out by private lighting companies with the incentive for them not to have illegal lamps in the shelves. This strategy was already employed during the project in coordination with PPQS but it should be further developed as far as up to now they can only act in Metro Manila. Other possibilities are analyzed in the chapter 5.2.

In the current situation the financial sustainability of this outcome is Moderately Likely (ML).

SOCIO POLITICAL

There are no social or political risks that may jeopardize the outcomes of this component, the stakeholders ownership is strong enough to allow the project outcomes to be sustained and there is sufficient interest and awareness in support the long term outcomes of this component.

With the lighting industry rallying behind the transformation exercise and the market itself finding ways and means to lower energy costs, lighting efficiency improvement is one of the easier and cheaper ways to go forward in doing business for Filipino companies.

In the current situation the socio political sustainability of this outcome is Likely (L).

INSTITUTIONAL FRAMEWORK AND GOVERNANCE

The PELMATP-PD drafted an exit plan with the inclusion of the follow-up activities under the DOE departments.

In February 2008, the ex- President Gloria Macapagal-Arroyo made the pronouncement to “phase out the use of incandescent bulbs”. This statement together with the signature of the Administrative Order No. 183 on 9 July 2007 which institutionalized the use of EEL systems in government facilities are outstanding achievement of the project strongly reinforcing the EEL institutional framework. The compliance monitoring and verification of the EEL systems implementation in government buildings is now under the DOE through the Energy Utilization Management Bureau (EUMB).

The failed talks with the National Building Code (NBC) of the Department of Public Works and Highways (DPWH) regarding the possible inclusion of the updated guidelines as a referral code to the NBC (due to the change in the composition of the Board of Consultants (BOC), absence of law from which to base the inclusion of the guidelines, etc.) might pose a threat to the continuous use of the elaborated material although a Memorandum of Agreement (MOA) was signed among the Department of Energy (DOE), the Department of Public Works and Highways (DPWH) and the Department of Interior and Local Government (DILG) for the effective implementation of the Guidelines, both at the national (DPWH) and the local (DILG) levels.

The Commission on Higher Education issued Memorandum Order (CMO) regarding the Policies and Standards for the Degree of Bachelor of Science in Electrical Engineering Program: it includes, among others, the inclusion of the Illumination Engineering Design in the Electrical Engineering Curricula. The Guidelines will be the reference materials for this subject.

Still concerning the PNS EEL market monitoring, DTI-BPS has not storage capacity for the confiscated products and no legal service is available nor money to pay the attorneys to defend the DTI personnel when they are personally denounced by the caught companies: both aspects need to be addressed to guarantee the sustainability of the outcome.

In the current situation the institutional framework and governance sustainability of this outcome is Moderately Likely (ML).

ENVIRONMENTAL

In case tested lighting products do not accomplish with the PNS the manufacturer/ distributor needs to retrieve the material from the market and either bring it back to the factory or destroy it: there might be a potential environmental problem related with its destruction as far as the lamp waste management is still very poor in the Philippines

There are no environmental risks that may jeopardize sustenance of project outcomes.

In the current situation the environmental sustainability of this outcome is Moderately Likely (ML).

Overall, due to the financial challenges, the sustainability of the outcomes of this component is Moderately Likely (ML).

5.2.Component 2: EEL Applications Institutional Capacity Building Program

The sustainability of this component is analyzed in all its aspects.

FINANCIAL

IIEE and DOE signed an agreement allowing the DOE to maintain the copyright of the publication while IIEE updates it every 3 years and recover the investment by selling the new material. 30% of the recovered money would go to DOE to fund IEC campaigns.

This way the financial sustainability of the publications updating is achieved and it is also contributing to the funding of the IEC activities under component 3 follow-up.

On the other side an important threat to the financial sustainability of the outcome is related with the lack of available budget at LATL for the maintenance of the purchased equipments.

For this reason, as an example, the goniophotometer purchased under the project is stored, lacking the money for the repair (4.200 USD) and the same is for the integrated sphere bought by ELI project which requires 1.100.000 pesos (approximately 25.000 USD) while the one bought by PELMATP is experiencing similar problems since 2 years.

LATL needs to request money for the maintenance of the equipments to the central government in February each year, experiencing two challenges i.e. ahead planning of corrective maintenance and limited availability of funds.

On top of maintaining the current equipments, LATL needs also to face the challenge of keeping the pace of the fast evolving lighting market, where technology is constantly changing, through new equipments procurement and staff training.

Some possibilities which should further be studied for the LATL to achieve financial sustainability could be:

- 1- LATL retains a part of the fees charged for the testing: LATL collects between 1.500.000 and 2.000.000 pesos/yr. The fees should also be reviewed and increased as far as LATL charges half than private laboratories and the cost of electricity represents almost half of the total fee. The project director reported at congress level they are discussing this possibility.
- 2- private companies might work under the LATL: one part of the revenues would be for the government and the other for the company to maintain, service and train the staff.
- 3- private laboratories could have a PPP with the government: private laboratories get the permission to test from DTI and give back a part of the fees for the trainings of DTI and LATL.

The last two alternatives would also benefit the private laboratories increasing their occupation rate as far as currently the IIEE Foundation laboratory is working less than 50% of the time.

In the current situation the financial sustainability of this outcome is Moderately Unlikely (MU).

SOCIO POLITICAL

There are no social or political risks that may jeopardize the outcomes of this component, the stakeholders ownership is strong enough to allow the project outcomes to be sustained and there is sufficient interest and awareness in support the long term outcomes of this component.

In the current situation the socio political sustainability of this outcome is Likely (L).

INSTITUTIONAL FRAMEWORK AND GOVERNANCE

The PELMATP-PD drafted an exit plan with the inclusion of the follow-up activities under the DOE departments.

DOE-PELMATP signed MOA with 8 professional organizations wherein the latter committed to adopt the EEL training module for professionals/ designers developed under the project as part of their respective regular professional development courses/training/seminars catered to their respective members, guaranteeing the continuous improvement of the technical capacities in the country.

Although DTI-BPS acquired accreditation to APLAC, no company is presenting performance testing because there are no accreditation laboratories abroad working with the PNS: further promotion of these standards in the region should be carried out.

The achievements of the PELMATP in the market based approach promoted with the cooperatives through micro- financing might be threatened by the free CFL distribution supported by the ADB-PEEP project

In the current situation the institutional framework and governance sustainability of this outcome is Likely (L).

ENVIRONMENTAL

There are no environmental risks that may jeopardize sustenance of project outcomes.

In the current situation the environmental sustainability of this outcome is Likely (L).

Overall, due to the financial challenges, the sustainability of the outcomes of this component is Moderately Unlikely (MU).

5.3.Component 3: EEL Applications Consumer Awareness Improvement Program

The sustainability of this component is analyzed in all its aspects.

FINANCIAL

Thanks to the agreement signed between IIEE and DOE concerning the updating and selling of the guidelines extra funds to the DOE-CWPO regular budget will be available to continue IEC campaigns.

In the current situation the financial sustainability of this outcome is Likely (L).

SOCIO POLITICAL

There are no social or political risks that may jeopardize the outcomes of this component, the stakeholders ownership is strong enough to allow the project outcomes to be sustained and there is sufficient interest and awareness in support the long term outcomes of this component.

In the current situation the socio political sustainability of this outcome is Likely (L).

INSTITUTIONAL FRAMEWORK AND GOVERNANCE

The PELMATP-PD drafted an exit plan with the inclusion of the follow-up activities under the DOE departments.

The DOE-CWPO will keep working, following its mandate, in raising the consumer awareness through information, communication and education campaign.

The website will be probably absorbed by the DOE who will be in charged to technically keep it operating and providing content.

In the current situation the institutional framework and governance sustainability of this outcome is Likely (L).

ENVIRONMENTAL

There are no environmental risks that may jeopardize sustenance of project outcomes.

In the current situation the environmental sustainability of this outcome is Likely (L).

Overall the sustainability of the outcomes of this component is Likely (L).

5.4.Component 4: EEL Initiatives Financing Assistance Program

The sustainability of this component is analyzed in all its aspects.

FINANCIAL

In the current situation the users and the ESCO have still not an easy access to financing for EEL.

The financial sustainability of the outcomes achieved until now under this component is Moderately Unlikely (MU).

SOCIO POLITICAL

There are no social or political risks that may jeopardize the outcomes of this component, the stakeholders ownership is strong enough to allow the project outcomes to be sustained and there is sufficient interest and awareness in support the long term outcomes of this component.

The achievements of the PELMATP market based approach promoted might be threatened by the free EEL distribution approach supported by the ADB-PEEP project

In the current situation the socio political sustainability of this outcome is Moderately Likely (ML).

INSTITUTIONAL FRAMEWORK AND GOVERNANCE

The PELMATP-PD drafted an exit plan with the inclusion of the follow-up activities under the DOE departments.

Although the DOE-EUMB is currently carrying out the ESCO accreditation, the government procurement reform act of 2003 challenge was not properly addressed and constituted the main barrier to the EEL ESCO project implementation in the public government buildings.

In the current situation the institutional framework and governance sustainability of this outcome is Moderately Unlikely (MU).

ENVIRONMENTAL

There are no environmental risks that may jeopardize sustenance of project outcomes.

In the current situation the environmental sustainability of this outcome is Likely (L).

Overall the sustainability of the outcomes of this component is Moderately Unlikely (MU).

5.5.Component 5: EEL System Waste Management Assistance Program

The sustainability of this component is analyzed in all its aspects.

FINANCIAL

Thanks to the agreement signed between IIEE and DOE concerning the updating and selling of the guidelines extra funds to the DOE-CWPO regular budget will be available to continue IEC campaigns to reinforce the lamp waste management.

The waste lamp treatment activities are generating revenues to the plants and they are expected to increase their business.

In the current situation the financial sustainability of the outcomes achieved until now under this component is Likely (L).

SOCIO POLITICAL

There are no social or political risks that may jeopardize the outcomes of this component, the stakeholders ownership is strong enough to allow the project outcomes to be sustained and there is sufficient interest and awareness in support the long term outcomes of this component.

In the current situation the socio political sustainability of this outcome is Likely (L).

INSTITUTIONAL FRAMEWORK AND GOVERNANCE

The PELMATP-PD drafted an exit plan with the inclusion of the follow-up activities under the DOE departments.

The challenge is now to enforce the implementation of the laws at LGU and household level. At this stage the Department of Interior and the local governments should be the responsible for the enforcement.

In the current situation the institutional framework and governance sustainability of this outcome is Moderately Unlikely (MU).

ENVIRONMENTAL

Due to the unsatisfactory achievement of this component under PELMATP, the mercury (Hg) from waste EELs pose a serious threat to the environment as far as the vast majority of the busted lamps are still currently disposed together with the normal trash.

In the current situation the environmental sustainability of this outcome is Unlikely (U).

Overall the sustainability of the outcomes of this component is Unlikely (U).

6. CATALYTIC ROLE

PELMATP helped catalyze the DOE's \$46.5 million ADB -funded Philippine Energy Efficient Project (PEEP), built upon the successes and gaps identified by PELMATP.

Although PEEP will be very useful in complementing PELMATP outcomes where it did not fully succeed i.e. component 5, the ADB funded intervention will have in some of its activities a different way to deal with EEL than the market oriented approach promoted by PELMATP in its components 2 and 4, posing a potential threat to some of its achievements.

The free distribution of CFL carried out by PEEP, for example, can threaten the work done by PELMATP in promoting the micro- financing for EEL procurement through the cooperatives, the financial entities leasing or the ESCOs and keep maintaining the foreign aid dependence. For example, after the PELMATP street lighting pilot project in Cagayan de Oro, the city council requested a grant to the PEEP for a new project instead of looking for their own way to finance it through the market mechanisms promoted by PELMATP.

PELMATP also was able in some occasions to catalyze the use of C&I private funds for their buildings retrofitting, something which hopefully will continue after the end of the project too.

7. MONITORING AND EVALUATION SYSTEM

Project monitoring, evaluation and dissemination were undertaken in accordance with UNDP and GEF established procedures, consisting of:

- Reporting:
 - Quarterly project reports
 - APR- PIR
 - Financial reports
- Periodical monitoring through PAB and TWG meetings
- Spot checks by audits.

The quarterly project reports provided the summary of the project results, progress and variances from the original plan, implementation issues, and steps being taken to address these issues, and work plans for the successive quarter for review and endorsement. Quarterly work plans were prepared based on the overall project objectives and performance indicators. The PMO presented the project status and accomplishment to the Project Advisory Board every quarter. A quarterly work plan based on project objectives and performance indicator was presented, evaluated and adjusted as and when necessary. The APR/PIR provided a more in-depth summary of work-in-progress, measuring performance against both implementation and impact indicators. Any adjustments in project approach would be reported to the Advisory Board who would evaluate and approve the adjustments recommended.

7.1.M&E during Project Implementation

7.1.1.M&E design

The M&E system counted with SMART indicators at output and objective levels while the outcomes did not count with it.

A baseline was included in the project brief in relation with the project objective and purpose.

The outputs indicators baseline was not included: although it was not a problem when measuring the direct activities achievements i.e. number of meetings held by the TWG, it made sometimes difficult to quantify the activities impacts.

Some additional SMART indicators could have been used to measure the outputs. As an example, after the excellent job done in training the consumer cooperatives and design the appropriate micro- financing scheme the indicator was the % of the registered/ accredited consumer's cooperatives in the country which became EEL distribution channels while no indicators were employed to quantify the outputs i.e. the amount, the number and the concept of the granted credits.

The sources of verification of the indicators were identified in the project logical framework but no data analysis system was established and no agreements were signed with the corresponding institutions making it sometime hard to get the corresponding information for confidentiality issues as it will be analyzed later.

The data analysis system would have been especially useful to measure the project objective in term of CO₂ and electricity consumption reduction

The commercial and industrial monitoring report was considered inappropriate by various stakeholders and for this reason a final survey was carried out by IIEE to quantify the CO₂ and electricity consumption reduction.

The quality of the M&E design can be considered Satisfactory (S).

7.1.2.M&E plan implementation

As previously explained, one of the major challenges of the M&E system was the measurement of the project objective in term of CO₂ and electricity consumption reduction.

The commercial and industrial monitoring report was carried out during the whole project sending out a questionnaire to C&I establishments which voluntarily decided to report or not about the EC measures they took or were going to take. The exact number of the establishments which replied is not known but many did not due to confidentiality.

Additionally to the received questionnaires, the results of the energy audits completed directly by the project were also included as savings although the retrofitting was not carried out.

Due to this situation a national survey was contracted to IIEE.

The emission factor employed to convert the electricity consumption reduction to CO₂ savings varied sensibly during the project, ranging from 0.17 used at the beginning of the project up to 0.49 t CO₂/ MWh employed at the end.

The annual growth in the market share of EELs in the country provides a clear indication of the realization of the project's purpose. As such, the Project Brief monitoring and evaluation said "this is one parameter that has to be monitored and evaluated during the course of project implementation. Surveys will be conducted during the first quarter of the third year (mid-term)

and the second quarter of the fifth year (final term) of the project to track the current status of the EEL market”. Nevertheless the mid-term survey was not carried out and the monitoring was carried out through the commercial and industrial monitoring report, with the previously highlighted limitations. In this sense the results of the commercial and industrial monitoring report i.e. 100% of lamps used in industrial establishments are energy efficient, 100% of lamps used in commercial firms are energy efficient, can not be considered representative of the national situation but they could have also misinformed the PMO during the project follow-up.

Additionally no data were made available about the ballasts characteristics at household and C&I level.

Some challenges were experienced during the indicators record and analysis:

- Some data were reported to the PMO but there was no possibility to carry out a crosscheck to verify them i.e. the number of government buildings nationwide reported to have implemented EEL projects
- The private sector was hesitant in providing information which they considered to be sensitive i.e. Manufacturer’s data on production and sales volume, Consumer cooperatives report on EEL distribution. For this reason, some sources of verification identified in the Project Brief were not activated
- the software database of certified products was not completed
- sometimes the information could not be received because of internal problems of the institutions in charged of providing it i.e. in 2010 DTI could not provide information about the EEL equipment sales volume because of the changes in the board of the DTI

The recommendations of the mid-term report were in general used by the PMO.

Although the instructions for the completion of the PR-PIR say “Numerical figures must be reported as cumulative from the project start”, some of them were not reported this way, complicating the proper follow-up of the project achievements i.e. Nº of meetings held by the multisectoral working group.

Sometimes the information of the APR-PIR was not consistent with what had been reported previously i.e. the reduction of Gg CO₂ since start of the project level at 30 June 2009 is not coincident in the APR-PIR report 2009-2010 (Reduction of 121.63 Gg C O₂ since start of project) with the data collected in the APR-PIR report 2008-2009 (Reduction of 71.13 Gg C O₂ since start of project).

In other occasions the information of the APR-PIR was not consistent with other reports such as the PELMATP Annual indicators i.e. According to the PELMATP Annual Indicators only 2 VA with manufacturers and distributors were signed, but according to the APR-PIR reports of 2009-2010 and 2008-2009 there is a total of 3.

The quality of the M&E design can be considered Moderately Unsatisfactory (MU).

7.1.3. Budgeting and Funding for M&E Activities

No budgeting and funding for M&E activities constraints were identified.

7.2. Monitoring of Long Term Changes

The project did not contribute directly to the establishment of a long term monitoring system.

Nevertheless it would have been interesting to set up such a mechanism in order to at least keep monitoring the indicators at the project purpose level i.e. efficient lamps and ballasts penetration in households and commercial and industrial establishments, because this information could be useful to orientate the choices of the decision makers in the EEL field.

However, although the decision was taken independently from PELMATP, starting next year the household's survey promoted by the Filipino government will include specific questions about lighting providing, at least at house level, that information.

8. ASSESSMENT OF PROCESSES THAT AFFECTED ATTAINMENT OF PROJECT RESULTS

This section of the report assesses some key processes related with the attainment of the results.

Other aspects i.e. preparation and readiness, country ownership/ drivenness, co-financing and project outcomes and sustainability and delays and project outcomes and sustainability were analyzed previously.

8.1. Stakeholder involvement

One of the major achievements of the PELMATP was the huge stakeholders involvement achieved. A vast array of the EEL market representatives i.e. government offices, lighting industry manufactures and importers, electricity utilities together with the DOE and UNDP actively participated in the project implementation and management through the TWG and PAB platforms.

However some interviewed stakeholders suggested some other actors could have participated more actively in the process i.e. the Department of interior for its role in the enforcement of the lamp waste management legislation at the LGU level and civil society representatives.

In order to make the TWG more operative, subcommittees were created but as far as the participating people were the same they were not operative.

8.2. Financial planning

The PELMATP had appropriate financial control, receiving 2 audits per year and the due diligence once a year. UNDP also carried out a surprise audit with positive results.

According to the information from the financial reports, the AWP and the Funding Authorization and Certificate of Expenditures and Expense Report, 81% of the total budget for

2010 was already spent. Nevertheless according to the information in the TOR, 86% of the budget had already been spent as of December 31, 2009.

There was only one moment during the project implementation, at the beginning of the year 2008 when there was no funds disbursement from UNDP until May as far as the annual work plan was not approved by the UNDP country representative.

There was only major realignment of the general budget i.e. DSM and it was carried out positively after the approval from UNDP and the PAB.

8.3. Implementing/executing Agency's supervision and backstopping

The PMO managed properly the daily activities of the project with the positive support from UNDP in Manila and Bangkok, the DOE, the TWG and the PAB.

The biggest challenge for the project implementation was the elapsed time, 5 years, since the identification, done in 2000, until the project began in 2005 causing the cancellation of the DSM activities and the salaries not to be aligned with the market.

For this reason only four PMO employees stayed during the whole project as far as additionally the salaries were never increased. The vacant positions were not covered easily because of the low qualification of the candidates and their high salary expectations. The strategy employed by the PMO to overcome this situation was to hire junior staff and restructure the consultancy services but some vacancy were never filled. This situation contributed to the project delay.

In some occasions the internal control on property management was found inadequate as valuable units of technical equipment were stored in project personnel's unlocked steel cabinets and table drawers. Likewise, controls in monitoring utilization and fuel consumption of project vehicles was inadequate as the Drivers' Daily Log did not reflect the estimated fuel consumption and the signature of authorized passengers per trip.

This finding was included in the 2009 audit report. These issues were properly addressed by the PMO. The property management issues were raised during the TWG meeting for the concerned personnel to ensure that the equipment were properly stored.

In addition, the estimated fuel consumption was reflected in the monthly vehicle trip ticket. Also indicated in the daily log report is the driver's daily trip of the vehicle with the passengers name along with their signature.

9. LESSONS LEARNED AND RECOMMENDATIONS

EEL technology is evolving very fast. In this context it is not possible to expect the achievements of a project like PELMATP will permit the country to be in the front of the market for a long time. In this sense it is fundamental for interventions like this one to create financial mechanism to allow independent development of standards by the country

government as well as testing equipment procurement in order to break the development aid dependence.

For the same reason during the project implementation, the responsible need to be constantly in contact with the market to be sure the project is always promoting the cutting edge technologies. If this issue is not properly addressed the risk is, as it was happening at the end of the implementation of PELMATP, the market is ahead of the project: while the project was promoting T8 technology, a more efficient tube, T5 was already sold in the country.

The elapsed time between the project identification and the beginning of the implementation should be reduced.

The possibility to calculate the electricity consumption reduction associated with EEL promotion directly i.e. through the hourly electricity national consumption curve analysis, instead than through a survey should be explored, especially in countries like the Philippines where the lighting is responsible of the 16% of the overall electricity consumption.

The high PMO staff rotation threatened the success of the project and caused its delay: in future interventions it could be interesting to study the possibility to integrate the PMO inside the executing agency, using for that purpose their own staff. On the other side there should be a more accurate human resources management, with one person in charged specifically of that task.

The main challenges for the PELMATP outcomes sustainability are now the financing of the LATL equipments maintenance, the continuous staff training and the enforcement of the PNS through the market monitoring as well as the waste management legislations: when similar projects are carried out, these aspects need to be addressed from the beginning of the intervention.

The poorer part of the Filipino society has not been reached by the intervention: a special attention needs to be paid to them in similar projects.

The delay in the turn-over of the equipments to the government generated extra-expenditures to the project due to the repairs.

Even after PELMATP the financing of EEL remains to be difficult in the Philippines.

Capitalizing on the project success increasing the awareness of the public of the benefits of energy efficiency lighting and learning from the project experience, the implementation of future programs partnering with electric utilities should be considered to promote the financing of energy efficient lighting through providing the option to the consumers to pay for the cost of implementation over a period of time. A key factor for the success of this recommended program is to provide business incentive to mitigate the loss of revenue for the utilities due to reduced load through increased profitability. This can be accomplished by the facilitating and organizing capacity building programs for utility professionals to address issues related to enhancing process efficiency and workflow in power generation, transmission and distribution through automation and the use of computerized supervisory control and data acquisition and related control systems in energy generation, transmission and distribution.

The limited scope demonstration projects, while performed, have not resulted in a sustainable model that can be replicated as well since the project has not allotted budget for this activity.

A new initiative to develop ESCO operation in the Philippines is recommended to be launched. The Project overall goal is to create an Energy Service Company (ESCO) as self-sustaining company conducting energy efficiency activities at the municipal and regional level.

The initiative would include two main components: (1) establishment of the municipal energy service company (ESCO) and, (2) performing demonstration of the energy saving program. A potential municipality need to be selected in consultation with the government, stake holders and executing agents.

Implementation of such energy saving program can be done in two phases; (1) implementation of the demonstration program and, (2) joint implementation of municipal energy saving programs in the chosen municipality and its reproduction to other cities/ municipalities through additional allocated investments.

This recommended ESCO project would establish a municipal energy service company (ESCO) and implement demonstration projects. To further enhance the sustainability and replication potential, a second stage can be considered to start upon successful completion of Stage 1 to include implementation of city-wide energy efficiency investment program and larger replication activities.

This model was successfully implemented in Ukraine with the support of UNDP GEF.

10. ANNEX A. TERMS OF REFERENCE (TOR)

TERMS OF REFERENCE

I. Purpose

The evaluation of the UNDP/GEF Philippine Efficient Lighting Market Transformation Project (PELMATP) aims to review the performance of the project from the start up to the end of the project, towards achieving its target objective and outcomes.

The review will assess and rate project results, the sustainability of project outcomes, the catalytic effect of the project, and the quality of the project's monitoring and evaluation systems. The evaluation will also identify "lessons learned and best practices" from the PELMAT Project and offer recommendations that might improve design and implementation of other similar UNDP/GEF projects.

II. Background

The project addresses the barriers to widespread utilization of energy efficient lighting systems (EELs) in the Philippines. It will cover energy efficient versions of linear fluorescent lamps (standard vs. the slim tubes), compact fluorescent lamps (CFL), high intensity discharge (HID) lamps, ballasts (low-loss electromagnetic and electronic), and luminaires. The Project will accelerate integration of EEL programs to the planned DOE activities, enhance private sector's involvement and appreciation of the benefits of EEL and ensure that environmental impacts associated with the use of EELs are mitigated. The project will achieve its objectives by: updating policies, standards/guidelines; institutional capacity building; educating consumers disseminating information; developing and implementing financing mechanisms; and, mitigating environmental impacts of the project. The implementation of the Project will result to an aggregate energy savings of 29,000 GWh equivalent to 21% reduction relative to the Philippines energy efficiency scenario from 2003 to 2012. The equivalent GHG emission reduction is about 4,600 Gg of CO₂ equivalent.

To achieve the above outcomes, the GEF has provided US\$ 3,130,655; and the government and private sector collectively provided a total amount of US\$12,000,000 co-financing.

III. Specific Objectives

The evaluation of the PELMAT Project should properly examine and assess the perspectives of the various stakeholders. The following areas should be covered in the final evaluation report:

1) General Information about the Evaluation

The final evaluation report should include information on when the evaluation took place; places visited; who was involved; the key questions; and, the methodology. The final evaluation report will also include the evaluation team's TOR and any response from the project management team and/or the country focal point regarding the evaluation findings or conclusions as an annex to the report.

2) Assessment of Project Results

The final evaluation will assess achievement of the project's objective, outcomes and outputs and will provide ratings for the targeted objective and outcomes. The assessment of project

results seeks to determine the extent to which the project objective was achieved, or is expected to be achieved, and assess if the project has led to any other short term or long term and positive or negative consequences. While assessing a project's results, the final evaluation will seek to determine the extent of achievement and shortcomings in reaching the project's objective as stated in the project document and also indicate if there were any changes and whether those changes were approved. If the project did not establish a baseline (initial conditions), the evaluator should seek to estimate the baseline condition so that achievements and results can be properly established.

Assessment of project outcomes should be a priority. Outcomes are the likely or achieved short-term and medium-term effects of an intervention's outputs. Examples of outcomes could include but are not restricted to stronger institutional capacities, higher public awareness (when leading to changes of behavior), and transformed policy frameworks or markets. An assessment of impact is encouraged when appropriate. The evaluator should assess project results using indicators and relevant tracking tools.

To determine the level of achievement of the project's objective and outcomes, the following three criteria will be assessed in the final evaluation:

- **Relevance:** Were the project's outcomes consistent with the focal areas/operational program strategies and country priorities?
- **Effectiveness:** Are the actual project outcomes commensurate with the original or modified project objective?
- **Efficiency:** Was the project cost effective? Was the project the least cost option? Was the project implementation delayed and if it was, then did that affect cost effectiveness? Wherever possible, the evaluator should also compare the cost-time vs. outcomes relationship of the project with that of other similar projects.

The evaluation of relevancy, effectiveness and efficiency will be as objective as possible and will include sufficient and convincing empirical evidence. Ideally the project monitoring system should deliver quantifiable information that can lead to a robust assessment of the project's effectiveness and efficiency. Outcomes will be rated as follows for relevance, effectiveness and efficiency:

- **Highly Satisfactory (HS):** The project had no shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency.
- **Satisfactory (S):** The project had minor shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency.
- **Moderately Satisfactory (MS):** The project had moderate shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency.
- **Moderately Unsatisfactory (MU):** The project had significant shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency.
- **Unsatisfactory (U):** The project had major shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency.
- **Highly Unsatisfactory (HU):** The project had severe shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency.

While rating the project's outcomes, relevance and effectiveness will be considered as critical criteria. If separate ratings are provided on relevance, effectiveness and efficiency, the overall outcomes rating of the project may not be higher than the lowest rating on relevance and effectiveness. Thus, to have an overall satisfactory rating for outcomes, the project must have at least satisfactory ratings on both relevance and effectiveness.

The evaluators will also assess other results of the project, including positive and negative actual (or anticipated) impacts or emerging long-term effects of a project. Given the long term nature of impacts, it might not be possible for the evaluators to identify or fully assess impacts. Evaluators will nonetheless indicate the steps taken to assess long-term project impacts, especially impacts on local populations, global environment (e.g., reduced greenhouse gas emissions), replication effects and other local effects. Wherever possible evaluators should indicate how the findings on impacts will be reported to the GEF in future.

IV. Capacity Development

The effects of the PELMAT Project activities on strengthening the capacities of the DOE, partner entities from other government offices, lighting industry players, private sector stakeholders/investors, peoples'/community organizations or civil society organization will be assessed.

V. Leverage

An assessment of PELMATP Project's effectiveness in leveraging funds that would influence larger projects or broader policies to support its goal will have to be conducted.

VI. Awareness Raising

- PELMATP Project's contribution to raise awareness on energy efficiency/environmental issues and of the GEF will be examined;
- PELMATP Project's contribution to promote policy or advocacy activities and collaboration among communities will be assessed.

The following table should be completed to provide a summary of the planned and actual activities of the project as well as the expenditures up to the present.

Components/Activities		Budget		
Planned Activities	Actual Accomplishment	As per WFP	Actual Expenditures	% of Actual vs. Project Budget
Component 1				
Mobilize and Operationalize PELMATP TWG	Multi-sectoral working groups (Policy Advisory Board and Technical Working Group) have been actively involved in providing technical and policy related recommendations	8,930	8,520.33	95.41%
Update Lighting Systems specification in the building energy use guidelines	Completed the updating of Guidelines for Energy Conserving Design of Buildings and the IIEE-ELI Manual of Practice on Efficient Lighting	69,641	69,641.00	100%
Review, update	25 new formulated and updated	50,000	50,000.00	100%

and implement lighting product standards	existing PNS, including MEPS			
	Developed lighting system Standards	13,600	13,600.00	100%
Develop and implement VA scheme with lighting manufacturers and distributors	Developed voluntary agreement (VA) scheme with lighting manufacturers and distributors	16,071	6,702.53	41.71%
Demonstrate and implement EEL systems in government buildings	Prepared Administrative Order and IRR, the AO No. 183 of which was eventually signed by the President directing the use of energy efficient lighting systems (EELs) in government facilities (Palit-ilaw)	36,250	23,353.84	64.42%
Formulate and implement incentives for EEL product importers and manufacturer and lamp waste recyclers				
Formulate and implement consumer protection guidelines	Developed guidelines on warranty of lamps	5,000	5,000.00	100%
		24,108	24,108.00	100%
	Developed guidelines on eco-labeling of lamps	5,000	5,000.00	100%
Component 2				
Accreditation of DOE-LATL	BPSLAS (now PAO) Accreditation to APLAC	51,460	49,566.51	96.32%
Upgrade testing capability of DOE LATL	Improvement of testing capability of LATL through the purchase of major equipment and construction of test facility for light sources and luminaires	1,258,806	1,209,380.44	96.07%
Conduct R & D Works on local applications on EEL Systems		40,385	7,847.65	19.43%
Develop lighting product monitoring program		43,541	38,891.44	89.32%
Establish local	Support to local lighting product	163,600	133,818.90	81.79%

manufacturing capacity and lighting services industry	manufacturers through the establishment of a comprehensive database of lighting product manufacturers, assessment of capabilities of local lighting product manufacturers, potential improvements and efficient designs for locally made lighting products, capacity building for lighting manufacturers (ongoing)			
Review/ update DSM Framework and plan templates		66,557	67.13	0.1%
Training DSM Plan Templates		27,000	17,754.44	65.76%
Design and implement EEL Leasing Model		15,000	15,000.00	100%
Design and implement Street lighting guidelines	Completed the template for local ordinance on the application of Roadway Lighting Guidelines (combined with Activity 1.2)	14,285	2,540.98	17.79%
Design of EEL Savings Calculator		6,000	1,757.09	29.28%
Design of Training Module on Application of EEL System		3,786	3,094.22	81.73%
Disseminate PELMATP Program and EEL system application demonstration activities to C & I establishments	Implementation of EEL Programs in the Industrial Sector through EEL systems application demonstration in industries, energy audit conducted in Philippine Steel Corporation, and Maitland Smith, and pledge of commitment of support by the Mactan Economic Zone – Facilities, Maintenance and Environmental Association(MEZ-FAMEA) members	28,464	28,464.00	100%
Implement EEL systems application demonstration to industrial and	– EEL systems application demonstrations in commercial sector, energy audit conducted in Gaisano, Cebu Holdings, St. Luke’s Medical Center, Manila Science High School.	53,864	39,739.82	73.79%

commercials establishments	<p>– Collaboration with Oro Chamber, Cebu Chamber and respective LGUs in a Pledge of Commitment to Support Lighting Efficiency</p> <p>Initiated the dialogue with lighting industry stakeholders, both Philippine Lighting Industry Association (PLIA) and non-PLIA member which is envisioned to lead to a single lighting industry association (initially, it may take the form of coalition)</p>			
Component 3				
Joint promotion of EEL products by government and private sector	<p>Joint government-private sector promotion of EEL technologies through annual fora, including the lighting convention with IIEE, ENMAP (presently, the Energy Efficiency Practitioners Association of the Philippines or ENPAP), DOE Energy Week, Pollution Control Association of the Philippines (PCAPI), Consumer Trade Fair, and umbrella organizations like the League of Corporate Foundations (LCF), Gawad Kalinga Movement (GK), Chambers of Commerce and Industry (e.g., Cagayan de Oro CCIF, Cebu CCI, Mandaue CCI, Philippine CCI), export processing zones (MEZ-FAMEA), PLIA and non-PLIA, USAID Eco-Asia Clean Development and Climate Program (CDCP), USAID-Energy and Clean Air Program (ECAP), International CFL Initiative, among others.</p> <p>Another activity that includes the joint government-private sector promotion is the "Palit-Ilaw Activities," where a certain portion of a target marketplace, school, hospital or community is chosen for retrofitting initiatives. The EEL products used for the Palit-Ilaw activities came from the partners companies in the lighting industry.</p> <p>Initiated the awareness of Lamp Waste Management through presentation in national convention and forum.</p>	20,000	20,000.00	100%
Promote EEL	IEC materials developed and distributed	59,375	58,780.83	99%

products to household	to various stakeholders			
	<p>Intensified project promotion through tri-media campaign</p> <ol style="list-style-type: none"> 1. Television:Konsumer Atbp., Bandila Magandang Umaga Pilipinas, Para Sa Iyo Bayan, ABS-CBN News Channel or ANC and others) 2. Radio: DZMM's Konysumer Atbp. 3. Newspaper: Philippine Daily Inquirer, Manila Bulletin,and other tabloids <p>Partnership with distribution companies, such as, Manila Electric Company (MERALCO), Visayas Electric Company (VECO) and Cagayan de Oro Electric Power and Light Company (CEPALCO) in the inclusion of the campaign of Palit-Ilaw and efficient light use to be placed in the message box of their respective electrical bills, and possibly doing IEC with PELMAT as part of their value added services to clients</p>			
Consolidate and disseminate data generated from results of PELMATP and other related activities	Operational project website	9,715	9,715.00	100%
Design, test and implement EEL courses	Inclusion of Illumination Engineering Design subject in the New Draft Electrical Engineering Curricula to be implemented in school year 2008-2009 to senior electrical engineering students	8,000	8,000.00	100%
Component 4				
Design and implement of micro financing model	Consultation with 27 cooperatives in Davao and Metro Manila for draft microfinancing scheme model	31,857	23,772.76	74.62%
Develop and implement ESCO Led projects	Drafted ESCO accreditation for DOE-Energy Utilization Management Bureau (EUMB) consideration and adoption Designed two draft model energy performance contracts for implementation by the Development Bank of the Philippines (DBP), which is	61,960	23,819.19	38.44%

	in line with the activity for a Model ESCO Transaction Project” by DBP. Developed Guidelines and framework to establish monitoring and verification protocols for future ESCO contracts.			
Build capacity of EEL business financing institutions	Education of 9 financing institutions on the economic and financial benefits of EEL systems initiatives, through training conducted in Metro Manila and Cebu (including Mindanao participants as well) in the evaluation of EEL system project proposals and help them develop their EEL project portfolio Assist DBP in the design of EEL financing promotional materials	22,000	22,000.00	100%
Component 5				
Formulate and implement policies and guidelines on managing Hg containing lamp wastes	Partnership arrangements with the Department of Environment and Natural Resources-Environment Management Bureau (DENR-EMB) for the lamp waste management program development	35,000	33,477.32	95.64%
	Developed guidelines on lamp waste management and development of national and local guidelines	24,501	5,353.91	21.85%
Establish lamp waste processing facility	Partnership arrangements with DoloMatrix on the transport, recycling and disposal of lighting products.	10,000	9,487.07	94.87%
	Started disseminating proper lamp waste management/disposal to various sector.			
Component 6				
Project Management and Administration		697,778	630,071.35	90.29%
Project Monitoring and Evaluation: Survey of compliance of project activities		50,000	50,000.00	100%
		69,500	31,221.86	44.92%
Evaluation of Project Results		17,120	5,188.85	30.31%
Financial and Management		12,500	12,500.00	100%

Audits				
TOTAL		3,130,654	2,697,236.45	86%

3. Assessment of Sustainability of Project Outcomes

The final evaluation will assess the likelihood of sustainability of outcomes at project termination, and provide a rating for this. Sustainability will be understood as the likelihood of continued benefits after the GEF project ends. The sustainability assessment will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes. The sustainability assessment should also explain how other important contextual factors that are not outcomes of the project will affect sustainability. The following four dimensions or aspects of sustainability will be addressed:

- **Financial resources:** Are there any financial risks that may jeopardize sustenance of project outcomes? What is the likelihood of financial and economic resources not being available once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining the project's outcomes)?
- **Socio-political:** Are there any social or political risks that may jeopardize sustenance of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project?
- **Institutional framework and governance:** Do the legal frameworks, policies and governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems for accountability and transparency, and the required technical know-how are in place.
- **Environmental:** Are there any environmental risks that may jeopardize sustenance of project outcomes? The final evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes.

On each of the dimensions of sustainability of the project, outcomes will be rated as follows:

- **Likely (L):** There are no or negligible risks that affect this dimension of sustainability
- **Moderately Likely (ML):** There are moderate risks that affect this dimension of sustainability.
- **Moderately Unlikely (MU):** There are significant risks that affect this dimension of sustainability.
- **Unlikely (U):** There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, the overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an 'Unlikely' rating in either of the dimensions then its overall rating cannot be higher than 'Unlikely'.

4. Catalytic Role

The final evaluation will also describe any catalytic or replication effect of the project. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. No ratings are requested for the catalytic role.

5. Assessment of Monitoring and Evaluation System

The final evaluation will assess whether the project met the minimum requirements for project design of M&E and the implementation of the Project M&E plan. GEF projects must budget adequately for execution of the M&E plan, and provide adequate resources during implementation of the M&E plan. Project managers are also expected to use the information generated by the M&E system during project implementation to adapt and improve the project. Given the long duration of many GEF interventions, projects are also encouraged to include long-term monitoring provisions to measure mid-term and long-term results (such as global environmental effect, replication effects, and other local effects) after project completion. The final evaluation report will include separate assessments of the achievements and shortcomings of the project M&E plan and of implementation of the M&E plan.

I. M&E during Project Implementation

- i. **M&E design.** Projects should have a sound M&E plan to monitor results and track progress towards achieving project objectives. An M&E plan should include a baseline (including data, methodology, etc.), SMART (Specific, Measurable, Achievable, Realistic and Timely) indicators and data analysis systems, and evaluation studies at specific times to assess results and adequate funding for M&E activities. The time frame for various M&E activities and standards for outputs should have been specified.
- ii. **M&E plan implementation.** The final evaluation should verify that: an M&E system was in place and facilitated timely tracking of progress towards the project objective and outcomes by collecting information on chosen indicators continually through the project implementation period; annual project reports were complete, accurate and with well justified ratings; the information provided by the M&E system was used during the project to improve project performance and to adapt to changing needs; and, projects had an M&E system in place with proper training for parties responsible for M&E activities to ensure data will continue to be collected and used after project closure.
- iii. **Budgeting and Funding for M&E Activities.** In addition to incorporating information on funding for M&E while assessing M&E design, a separate mention will be made of: whether M&E was sufficiently budgeted at the project planning stage; and, whether M&E was adequately and timely funded during implementation.

Project monitoring and evaluation systems will be rated as follows on quality of M&E design and quality of M&E implementation:

- **Highly Satisfactory (HS):** There were no shortcomings in the project M&E system.
- **Satisfactory (S):** There were minor shortcomings in the project M&E system.
- **Moderately Satisfactory (MS):** There were moderate shortcomings in the project M&E system.
- **Moderately Unsatisfactory (MU):** There were significant shortcomings in the project M&E system.
- **Unsatisfactory (U):** There were major shortcomings in the project M&E system.
- **Highly Unsatisfactory (HU):** The Project had no M&E system.

The overall rating of M&E during project implementation will be solely based on the quality of M&E plan implementation. The ratings on quality at entry of M&E design and sufficiency of funding both during planning and implementation stages will be used as explanatory variables.

II. Monitoring of Long Term Changes

M&E of long term changes is often incorporated in GEF supported projects as a separate component and it may include determination of environmental baselines, specification of indicators, provisioning of equipment and capacity building for data gathering, analysis and use. This section of the final evaluation will describe the actions and accomplishments of the project in the establishment of a long term monitoring system. The review will address the following questions:

- Did this project contribute to the establishment of a long term monitoring system? If it did not, should the project have included such a component?
- What were the accomplishments and short comings in establishment of this system?
- Is the system sustainable, i.e., is it embedded in a proper institutional structure and has financing?
- Is the information generated by this M&E system being used as originally intended?

6. Assessment of Processes that Affected Attainment of Project Results

Among other factors, when relevant, it is suggested that the evaluation team considers the following issues affecting project implementation and attainment of project results. However, evaluators are not expected to provide ratings or separate assessment on the following issues but they could be considered while assessing the performance and results sections of the report:

- **Preparation and readiness.** Were the project's objectives and components clear, practicable and feasible within its timeframe? Were the capacities of executing institution and counterparts properly considered when the project was designed? Were lessons from other relevant projects properly incorporated in the project design? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval? Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?
- **Country ownership/drivenness.** Was the project concept in line with the sectoral and development priorities and plans of the country? Are project outcomes contributing to national development priorities and plans? Were the relevant country representatives, from government and civil society, involved in the project? Did the recipient government maintain its financial commitment to the project? Has the government approved policies or regulatory frameworks that are in line with the project's objectives?
- **Stakeholder involvement.** Did the project involve the relevant stakeholders through information-sharing, consultation and by seeking their participation in the project's design, implementation, and monitoring and evaluation? For example, did the project implement appropriate outreach and public awareness campaigns? Did the project consult and make use of the skills, experience and knowledge of the appropriate government entities, NGOs, community groups, private sector, local governments and academic institutions in the design, implementation and evaluation of project activities? Were perspectives of those that would be affected by decisions, those that could affect the outcomes and those that could contribute information or other resources to the process taken into account while taking decisions? Were the relevant vulnerable groups and the powerful, the supporters and the opponents, of the processes properly involved?
- **Financial planning.** Did the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds. Was there due diligence in the management of funds and financial audits? Did promised co-financing materialize?

- **Implementing/Executing Agency's supervision and backstopping.** Did Implementing/Executing Agency staff identify problems in a timely fashion and accurately estimate their seriousness? Did Implementing/Executing Agency staff provide quality support and advice to the project, approve modifications in time and restructure the project when needed? Did the Implementing/Executing Agencies provide the right staffing levels, continuity, skill mix, and frequency of field visits for the GEF projects?
- **Co-financing and Project Outcomes and Sustainability.** If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for the variance? Did the extent of materialization of co-financing affect the project's outcomes and/or sustainability, and if it did affect outcomes and sustainability then in what ways and through what causal linkages?
- **Delays and Project Outcomes and Sustainability.** If there were delays in project implementation and completion, then what were the reasons? Did the delay affect the project's outcomes and/or sustainability, and if it did affect outcomes and sustainability then in what ways and through what causal linkages?

7. Lessons and Recommendations

The evaluators will present lessons and recommendations in the final evaluation report on all aspects of the project that they consider relevant. The evaluators will be expected to give special attention to analyzing lessons and proposing recommendations on aspects related to factors that contributed or hindered: attainment of project objectives, sustainability of project benefits, innovation, catalytic effect and replication, and project monitoring and evaluation. Evaluators should refrain from providing recommendations to improve the project. Instead they should seek to provide a few well formulated lessons applicable to the type of project at hand or to GEF's overall portfolio. Final evaluations should not be undertaken with the motive of appraisal, preparation, or justification, for a follow-up phase. Wherever possible, the final evaluation report should include examples of good practices for other projects in a focal area, country or region.

VII. Methodology

The evaluation will consist of a desk review of relevant project documents and reports related to the planned evaluation and of the GEFs. The expert will then conduct focused group discussions, meetings, and interviews with the Project Director and other partners on topics and issues that relate to the implementation and impact of the project. The Expert is expected to become well versed as to the objectives, historical developments, institutional and management mechanisms, project activities and already documented "lessons learned" of the project. Information will be gathered through document review, group and individual interviews and site visits. More specifically, the evaluation will be based on the following sources of information:

- Review of documents related to the project such as project document, quarterly and annual progress reports, other activity/component specific deliverables, reports and evaluation, if there are any, etc.
- Structured interview with knowledgeable parties, i.e., Project Director, Project Personnel, Sub-Contracting Parties/Entities, National Consultants, UNDP Country Office Counterparts, members of the Project Steering/Advisory Committee/s, Community-Based/Peoples Organization/s, Project Beneficiaries or grantees, etc.
- A number of visits to various pilot project sites, if feasible. The site visits should be discussed with the Project Coordinator and UNDP.

VIII. Timing and Submission of the Report

The PELMAT Project evaluation will begin on the second September 2010 and should be completed by the October 2010. The first draft evaluation report will be prepared by the expert/expert team within the evaluation period and initially will be submitted to the PELMATP-PMO, preferably electronically, and shared with the Implementing Party and the Executing Agency (i.e., the Department of Energy or DOE and the UNDP Environment Portfolio Unit) to solicit comments or clarifications. The draft report shall be presented to the Policy Advisory Board (PAB) and the other stakeholders for further deliberations and in order to obtain feedback necessary for its finalization. The final report shall be prepared and delivered within two weeks after the evaluation exercise highlighting important observations, analysis of information, and key conclusions including the corresponding recommendations. The report, incorporating all the substantive corrections/modifications and recommendations primarily by the DOE, UNDP and the key stakeholders should there be any, shall be prepared and submitted to the PELMATP-Project Management Office (PMO), in ten (10) copies along with the CD containing the electronic file of the report.

IX. Roles and Responsibilities

The PELMATP-PMO shall assist the experts/evaluation team in preparing for the final evaluation of the project. The evaluation team, which shall be composed of a highly qualified independent expert together with one independent national consultant, shall be directly supervised by the Project Manager during the evaluation exercise. The PELMATP-PMO shall provide advance copies of the necessary documents needed by the experts in preparing for and other pertinent information/documents in the course of the evaluation. Likewise, the PELMATP-PMO shall provide the list of contact persons representing the various stakeholders of the project, which will be the basis for the tentative itinerary/schedule of activities, which the expert/evaluation team will prepare. The PELMATP-PMO will finalize the schedule of activities in consultation with the expert/evaluation team and the UNDP CO staff. The PELMATP-PMO shall coordinate the logistical arrangements for the evaluation.

X. Outputs

The following are the required outputs of the final evaluation:

- 1) A succinct written review of the status of the PELMAT Project discussing the above points and that may include relevant diagrams/figures/charts or tables pertinent to the review, where available/applicable. The report should be delivered to the PELMATP-PMO and the Chair of the Policy Advisory Board of the project in hard copy form plus CD with the electronic file in MS Word.
- 2) Presentation of the evaluation findings and recommendations to the DOE, UNDP and PMO.
- 3) Complete Final Evaluation Report (hard copy and in electronic format as above).

XI. Team Composition

- 1) One (1) international consultant knowledgeable about Energy Management and/or Efficiency, with solid experience in project management (implementation, monitoring and evaluation process), market transformation and familiarity with promotional activities in the areas of energy and environment.

- 2) One national consultant who have extensive knowledge of the energy and power situation in the Philippines, with experience in developing performance indicators, project appraisal and evaluation of development projects.

XII. Qualification Requirements

- 1) Evaluators must be independent of both the policy-making process and the delivery and management of assistance to the PELMAT project. They should not have been engaged in the activities to be evaluated, or responsible in decision-making roles for the design, implementation or supervision of the project. In cases where a member of an evaluation team has been involved with some aspects of the project, this member should refrain from evaluating those aspects. In cases where project evaluation team members are not independent, are biased and are not free of conflict of interest, UNDP will put in place a final evaluation quality control review by its independent evaluation office.
- 2) Evaluators will be impartial and will present a comprehensive and balanced appraisal of the strengths and weaknesses of the project or activity being evaluated.
- 3) The evaluation team should comprise of professionals with strong evaluation experience, with requisite expertise in the subject matter of the project, and with experience in economic and social development issues.
- 4) Evaluators should be knowledgeable about the relevant policies of the GEF/UNDP.
- 5) Evaluators should ensure that while conducting the final evaluation they take into account the views of all relevant stakeholders. The TOR for this GEF project's final evaluation and its schedule should be made known to key stakeholders.
- 6) Evaluators should become familiar with the project document and should use the information generated by the project including, but not restricted to, baseline and information generated by its M&E system. Evaluators should also seek the necessary contextual information to assess the significance and relevance of results.

11. ANNEX B. ITINERARY AND ACTIVITIES OF THE EVALUATION TEAM

DATE	EVALUATION ACTIVITIES
Sun 28 Nov 2010	Arrival of the International Consultant Mr. Sam Gouda to Manila.
Wed 01 Dec 2010	Meeting of the international Consultant Mr. Sam Gouda at the DOE with Rodolfo O. Manga (PELMATP EEL Audit Specialist), Rebecca C. Manari (PELMATP Financer Officer), Charmon GSG. Reyes (UNDP Programme Associate), Imee Manal (UNDP Programme Analyst), Mirna N. Campañano (PELMATP Assistant Project Director), Reby C. Orbista (PELMATP Administrative Officer), Emmaunel R. Soyosa (DOE Sr. SRS), Sheem A. Ganzagan (PELMATP Admin Assistant), Jasmine R. Fangim (PELMATP SRS II).
Wed 01 Dec 2010	Arrival of the support team Mr. Nicola Bugatti and Ms. Cristina García
Wed 01 Dec 2010	Work coordination of the evaluation Team.
Thu 02 Dec 2010	Meeting of the evaluation team at the DOE with Arturo M. Zabala (PELMATP EEL System Specialist), Rodolfo O. Manga (PELMATP EEL Audit Specialist), Raquel Huliganga (PELMATP).
Thu 02 Dec 2010	12. The evaluation team visit the LATL in Quezon City with Rodolfo O. Manga (PELMATP EEL Audit Specialist), Mirna R. Campañano (LATL Head and Assistant Project Director), G.A. Ramos (LATL Sup SRS), Ronald O. Tahanlangtt (LATL Senior SRS), Miguel N. Trenuela (LATL SRS-II).
Thu 02 Dec 2010	The evaluation team visit the hardwarestore for yellow label sampling
Thu 02 Dec 2010	Meeting of the evaluation team at Somerset Hotel with Noel N. Verdote (Former Project Manager).
Fri 03 Dec 2010	Meeting of the evaluation team at DTI-BPS Office in Manila with Rodolfo O. Manga (PELMATP EEL Audit Specialist), Cirila S. Botor (DTI-BPS Officer in Charge), Carmencita B. Magu (DTI-BPS Officer in Charge Standards Conformity Division), Jerry P. Maglalang (DTI-BPS Center Manager Division Chief).
Fri 03 Dec 2010	Meeting of the evaluation team with Teddy Lim (PLIA Vice President / Digital Marketing Director), Rodolfo O. Manga (PELMATP EEL Audit Specialist).
Mon 06 Dec 2010	Meeting of the evaluation team with Raymond A. Marquez (chairman, IIEE PELMATP Task force)
Mon 06 Dec 2010	Meeting of the evaluation team with Amelia Supetran (UNDP- Team leader, energy & environment), Imee F. Manal (UNDP- Programme Analyst, Environment Team), Karyll Angeles (UNDP)
Thu 07 Dec 2010	Meeting of the evaluation team with Angelica Salomon Dealino (Country Manager IIEC)
Thu 07 Dec 2011	Meeting of the evaluation team with Mariam Isolde Salvador and Rustico Noli D. Cruz (DBP)
Thu 07 Dec 2010	Meeting of the evaluation team with Danilo Villas (Makati City Hall)
Wed 08 Dec 2010	Meeting of the evaluation team with Kyla S. Matias (Environmental Management Representative DoloMatrix)
Wed 08 Dec 2011	Meeting of the evaluation team with Noel N. Verdote (Former Project

	Manager).
Wed 08 Dec 2011	Meeting of the evaluation team with Roger A. Calfoforo (Housing development manager- NATCCO).
Thu 09 Dec 2010	Meeting of the evaluation team with Rey Amata (Malabon City Hall)
Thu 09 Dec 2010	Meeting of the evaluation team with Mr Quides (former vice-president Malabon City University)
Thu 09 Dec 2010	Meeting of the evaluation team with Leo De Guzman (Valenzuela City Hall)
Thu 09 Dec 2010	Mr. Kendrick Chua (Business Development Manager-FUMACO)
Fri 10 Dec 2010	Focus group discussion with the member of the TWG
Fri 10 Dec 2010	<u>Meeting of the evaluation team with Wilson Henson (Green choice)</u>
Fri 10 Dec 2010	Meeting of the evaluation team with J. Salvador T. Passe (Supervising Environmental Management Specialist- EMB)
Thu 14 Dec 2010	Meeting of the evaluation team with Arturo Zabala (OIC-PELMATP)
Thu 14 Dec 2010	Meeting of the evaluation team with Rodolfo O. Manga (PELMATP EEL Audit Specialist)
Thu 14 Dec 2010	Meeting of the evaluation team with Jesus Anunciación (Officer in charge of the office of the director- EUMB)
Thu 14 Dec 2010	Meeting of the evaluation team with Helen B. Arias (Chief CWPO)
Thu 14 Dec 2010	Meeting of the evaluation team with R. Hulganga (PELMATP- Project Director)
Thu 14 Dec 2010	Meeting of the evaluation team with Loreta G. Ayson (Undersecretary- DOE)
Thu 14 Dec 2010	Meeting of the evaluation team with Laiden Pedrina (former PELMATP -Task Specialist – Information, Education and Communication)
Thu 14 Dec 2010	Meeting of the evaluation team with Rosario T. Mojica (former PELMATP-Task Specialist – Capacity Building and Financing)
Thu 27 January 2011	Meeting of the evaluation team with Arturo Zabala (PELMATP-PMO)

ANNEX C. LIST OF DOCUMENTS REVIEWED BY THE EVALUATION TEAM

1. PELMATP Project Brief and Project Document
2. UNDP_ADR_PELMATP-PMO_Response,2Feb09
3. PELMATPBriefAOR
4. Midterm Evaluation Final Report
5. Addressees and Facsimiles of TWG Members
6. PELMATP Accomplishment 2005-2009
 - 6.1 2005 PELMATP Accomplishment Report
 - 6.2 2006 PELMATP Accomplishment Report
 - 6.3 2007 PELMATP Accomplishment Report
 - 6.4 2008 PELMATP Accomplishment Report
 - 6.5 2009 PELMATP Annual Project Report
7. APR-PIR
 - 7.1 1128_PELMATP_EXCEL_2008-2009
 - 7.2 1128_PELMATP_EXCEL_2009-2010
 - 7.3 PHI_PELMATP_PIR_2006-2007 Final
 - 7.4 PHL PELMATP PIR 2007-2008 Final
8. Annual Work and Financial Plans_Financial Reports
 - 8.1 2006
 - 8.1.1 2006 WFP_revised
 - 8.1.2 Financial Report 2006_FINAL
 - 8.2 2007
 - 8.2.1 Financial Report FACE_PELMATP_1stQtr2008_approved
 - 8.2.2 Financial Report FACE_PELMATP_2ndQtr2007_approved
 - 8.2.3 Financial Report FACE_PELMATP_3rdQtr2007_approved
 - 8.2.4 Financial Report FACE_PELMATP_4thQtr2007_approved
 - 8.2.5 PELMATP 2007 WFP. FINAL
 - 8.2.6 PELMATP 2007 WFP
 - 8.2.7 Revised 2007 AWP
 - 8.2.8 Revised AWP 2007
 - 8.3 2008
 - 8.3.1 2008 AWP_Final
 - 8.3.2 2008 AWP_Final_revised_2008
 - 8.3.3 2008 AWP_Final_revised_2008_Final
 - 8.3.4 FACE_PELMATP_1stQtr2008_approved
 - 8.3.5 FACE_PELMATP_2ndQtr2008_approved
 - 8.3.6 FACE_PELMATP_3rdQtr2008_approved
 - 8.3.7 FACE_PELMATP_4thQtr2008_approved
 - 8.3.8 FR_1st Qtr 2008
 - 8.3.9 FR_2nd Qtr 2008
 - 8.3.10 FR_3rd Qtr 2008
 - 8.3.11 FR_4th Qtr 2008

- 8.3.12 FR_dec 2007
- 8.4 2009
 - 8.4.1 face 1st Qtr 2009
 - 8.4.2 face 2nd Qtr 2009
 - 8.4.3 face 3rd Qtr 2009
 - 8.4.4 face 4th Qtr 2009
 - 8.4.5 face june 2rd Qtr 2009
 - 8.4.6 PELMATP_AWP_ 2009-FINAL
- 8.5 2010
 - 8.5.1 FACE_2nd QTR_CA 2010 Jun Final
 - 8.5.2 FACE_2nd QTR_CA 2010Aprilfull & May
 - 8.5.3 FACE_2nd QTR_CA April partial 2010
 - 8.5.4 FACE_4th QTR_CA 2010 Julyto Sept
 - 8.5.5 FACE_4th QTR_CA 2010 Oct
 - 8.5.6 FACE_PELMATP_1st QTR_CA 2010
 - 8.5.7 PELMATP_AWP_ 2010_Final
 - 8.5.8 PELMATP_revised AWP_2010
- 9. PELMATP Annual Indicators_2010
- 10. 1st Quarter 2009 Narrative Report
- 11. 1stQtr2010_NarrativeReport_12Apr10
- 12. 1stQtrNarrativeReport10Apr08
- 13. 2nd Quarter 2009 Narrative Report
- 14. 2ndQtr2010_NarrativeReport_12July2010
- 15. 2stQtrNarrativeReport10Jul08,8Jul8
- 16. 3rd Quarter 2009 Narrative Report
- 17. 3rdQtr2010_NarrativeReport_Final_8Oct2010
- 18. 3rdQtrNarrativeReport10Oct07
- 19. 3rdQtrNarrativeReport10Oct08,22Oct08
- 20. 4th Quarter 2009 Narrative Report 10Jan2010 6Jan10ver
- 21. 4thQtrNarrativeReport10Jan09,06Jan09
- 22. Philippine National Standard PNS 2050-2:
2007 Lamps and related equipmeny - Energy efficiency and labeling requirements
- 23. Implementing guidelines for the mandatoty certification of
self-ballasted lamps covered by PNS IEC 968:2006
- 24. Summary report for the nine tranches of deliverable of PELMATP technical
assistance on development of lighting product certification and monitoring program -
DTI
- 25. Joint administrative order No 09-03 Series of 2009
- 26. PELMATP Leasing Revised Tech Report 4_14 Aug09
- 27. PELMATP Leasing Revised Tech Report 6_Final Report_2Dec09.pdf
- 28. PELMATP Revised MFI Final Report_14Aug09.pdf
- 29. pelmatp report for retrofit
- 30. pelmatp survey report by iiee (initial)
- 31. Final Report_Ron allan
- 32. LWM Final Report

- 33 PELMATP Exit Plan
- 34 moa for guidelines (pelmatp)
- 35 Tech Report # 6 (Final Report)

ANNEX D. DOE COMMENTS ON THE PELMATP EVALUATION REPORT DATED SEPTEMBER 2011

Item No.	Page/ Section/P aragraph	Description	Remarks/Response
1	P.9/2 nd Para.	Energy savings aimed at are an estimated 2,704 GWh and equivalent CO ₂ emission reduction of 497,000 tonnes of CO ₂ .	The value quoted for the energy savings “2,704” GWh and corresponding CO ₂ emission reduction of “497,000” tonnes are the targets for year 2008. (Reference: Project Brief, P. 94. The targets for the 5-year project timeframe, 2004 to 2008 are 7,147 GWh and 1,305,982 tonnes of CO ₂ , respectively.)
2	P. 11 / Section 4.1/ 3 rd Para.	The energy saving aimed at were estimated in the Project Document to 2,704 GWh and equivalent CO ₂ emission reduction of 497,000 tonnes of CO ₂ .	The value quoted for the energy savings “2,704” GWh and corresponding CO ₂ emission reduction of “497,000” tonnes are the targets for year 2008. (Reference: Project Brief, P. 94. The targets for the 5-year project timeframe, 2004 to 2008 are 7,147 GWh and 1,305,982 tonnes of CO ₂ , respectively.)
3	P. 11 / Section 4.1/ 4 th Para.	A final survey was carried out by IIEE to quantify the CO ₂ and electricity consumption reduction but the final results have not yet been distributed. Consequently at the moment the achievement of the project goal cannot be evaluated.	IIEEF submitted the final survey report in June 2011 which DOE accepted within one month from submission.
4	P. 14 / Section 1.2	The manual on efficient lighting was included in the curricula of 130 undergraduate schools	The Manual on Efficient Lighting was included as textbook/reference material in the 3-unit subject “Illumination Engineering Design” for 5 th year Electrical Engineering students in 130 tertiary schools in the country.
5	P.19 / 10 th para.	The implementation of the street lighting guidelines was only carried out in 2 LGUs (Valenzuela and Cagayan de Oro) and both projects were quite small, respectively 14 and 50 lamps.	Only two were carried out because they were meant to be demonstration models for other local government units to replicate.
6	P.20/ Section 2.1	LATL received the accreditation for linear lamps, not for the ballasts	Under PELMATP, LATL received the ISO 17025 accreditation for linear fluorescent lamps and for its capability to calibrate electrical measuring equipment; In addition, LATL was able to renew its ISO 17025 accreditation for compact fluorescent lamps with additional capabilities.

7	P. 22/ Section 2.11	No data available	PELMATP tapped the Lighting Research Center (LRC) for the conduct of a 2-day Seminar on EEL Application for lighting designers, professional organizations, industrial and commercial sectors, institutions, suppliers, trainers; 100 participants; August 9-10, 2010; held at UP-Ayala Technohub.
8	P. 45 to 47 / Section 9	Lessons Learned and Recommendations	Note: For the format, It is suggested that the lessons and recommendations be numbered for clarity.
9	P. 46 / 7 th para.	The poorer part of the Filipino society has not been reached by the intervention: a special attention needs to be paid to them in similar projects.	PELMATP implemented some activities that would address the poorer part of the Filipino such as “Palit Ilaw” activity which covered all sectors of the society including the poor ; another activity is the street lighting demonstration projects in Valenzuela and Cagayan de Oro. Specifically, PELMATP partnered with “Gawad Kalinga”, an NGO, for the use of CFLs in place of the incandescent bulbs in housing projects for the poor. With regard to the Cagayan de Oro streetlighting project, the tricycle drivers and tricycle passengers/commuters appreciated the project for the resulting economic and safety benefits.
10	P. 46/ last para., 1 st sentence	... the implementation of future programs partnering with electric utilities should be considered to promote the financing of energy efficient lighting through providing the option to the consumers to pay for the cost of implementation over a period of time.	Note: Please suggest what option would be feasible in the short term. At the moment, the cost of the EEL cannot be incorporated in the electric bill because this is not allowed as a matter of policy.

11	P. 47 / last 5 para.	<p>A new initiative to develop ESCO operation in the Philippines is recommended to be launched. The Project overall goal is to create an Energy Service Company (ESCO) as self-sustaining company conducting energy efficiency activities at the municipal and regional level.</p> <p>The initiative would include two main components: (1) establishment of the municipal energy service company (ESCO) and, (2) performing demonstration of the energy saving program. A potential municipality need to be selected in consultation with the government, stake holders and executing agents.</p> <p>Implementation of such energy saving program can be done in two phases; (1) implementation of the demonstration program and, (2) joint implementation of municipal energy saving programs in the chosen municipality and its reproduction to other cities/ municipalities through additional allocated investments. This recommended ESCO project would establish a municipal energy service company (ESCO) and implement demonstration projects. To further enhance the sustainability and replication potential, a second stage can be considered to start upon successful completion of Stage 1 to include implementation of city-wide energy efficiency investment program and larger replication activities.</p> <p>This model was successfully implemented in Ukraine with the support of UNDP GEF.</p>	<p>The establishment of a Super ESCO that would initiate marketing of ESCO services in the country under the Philippine Energy Efficiency Project (PEEP) would not push through due to some changes in the business plan of the PNOC which has been previously identified to become the Super ESCO. This Super ESCO activity has been deleted in the 2011 revised work and financial of the PEEP.</p>
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